RESIDENTIAL AND CIVIL CONSTRUCTION ALLIANCE OF ONTARIO

RCCAO

Constructing Ontario's Future

INFRASTRUCTURE INVESTMENT COALITION

ONTARIO'S BRIDGES BRIDGING THE GAP

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Prepared by:

MMM GROUP

The Residential and Civil Construction Alliance of Ontario (RCCAO) is an alliance composed of management and labour groups that represent all facets of the construction industry. Its stakeholders stem from residential and civil sectors of the construction industry, creating a unified voice. The RCCAO's goal is to work in cooperation with governments and related stakeholders to offer realistic solutions to a variety of challenges facing the construction industry.

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- Toronto Residential Construction Labour Bureau
- Heavy Construction Association of Toronto
- Greater Toronto Sewer and Waterman Contractors Association
- Residential Low-rise Forming Contractors Association of Metro Toronto & Vicinity
- LIUNA Local 183
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1.0 EXECUTIVE SUMMARY

This report on the state of Ontario's bridges was commissioned by the Residential and Civil Construction Alliance of Ontario. It is intended to broadly and objectively review the current state of the province's bridge infrastructure.

Many of Ontario's bridges are more than 50 years old and require major rehabilitation and reconstruction.

Challenged to address a variety of other funding demands (e.g. health or social services), all levels of government have for a number of years sought to defer the needed infrastructure maintenance and rehabilitation work. Continuing on this path is not sustainable and can only lead to negative consequences that will adversely affect public safety. Recent media coverage on bridge collapses in Quebec and Minnesota has highlighted the serious consequences of postponing action to address this problem.

Clearly, all levels of government must collectively address the extensive rehabilitation needs of our aging bridge infrastructure.

Municipalities are the most seriously affected by the bridge infrastructure dilemma. Due to several years of downloading, municipalities are now the largest and most important bridge infrastructure owners in the province. But municipalities are not in a good position to fund this massive undertaking. The tax base of many municipalities cannot accommodate the bridge rehabilitation and reconstruction funding needs without the support of the federal and provincial governments.

An important finding of this report is that for the past decade there has been no single agency or government body that has all the information on the state of Ontario's bridges. While the province has information on the bridges it owns, there is no comprehensive database of municipal bridges. Furthermore there is no agency responsible for ensuring that the municipal bridge inspections and rehabilitation work is carried out effectively.

It is impossible to say whether there is any bridge safety concern in Ontario as the data to support such a conclusion is generally not available. However, a number of recommendations can be made to promote the public's safety and the sustainability of Ontario's bridge infrastructure:

1. **Ensure that Safety is Paramount (highest priority)**

   The Ministry of Transportation (MTO) has the technical expertise and should immediately obtain and review all of the municipal records to ensure that bridge inspections have been completed. It should also identify where inspections are

required and prioritize bridges that need repairs in the "Now" and in the "1-5 year" time periods. This action is most urgently required for smaller and northern municipalities.

This initiative should be taken early this winter so that if any further bridge inspection and/or rehabilitation work is required, it can be programmed to commence early next spring.

MTO should take a leadership role and assume the responsibility to ensure that all inspections have been completed. It should prepare a comprehensive status report that identifies the Now and 1-5 year bridge needs for all Ontario's bridges before the end of next summer.

2. Implement Governance Reforms

The Ministry of Transportation should become the custodian of all the bridge records in the province and integrate that information into a single data base under its jurisdiction. With this information, the province will then be able to determine the nature and extent of any problems. It should maintain the quality and currency of the database and use this information to develop strategic and financial plans to deal with the province's needs. Having control of the database would assist the provincial government in determining the benchmarks and needs, and prioritize funding initiatives.

With such a database in place, MTO could ensure that bi-annual bridge inspections are carried out.

3. Provide Technical Leadership

MTO should continue to provide municipalities with the technical expertise, guidance and standards for bridge design, construction, maintenance and inspection. Uniform reporting and bridge condition standards should be established across the province.

The Ontario government should provide support for research and development in the areas of bridge testing and inspection technologies, and in bridge engineering designs that improve the life expectancy and reduce maintenance costs of bridges. Advanced bridge inspection techniques and technology should be encouraged.

4. Strengthen Provincial Legislation

Legislation may need to be updated to more clearly define municipal and provincial bridge responsibilities.

Legislation must be strengthened to ensure the proper accreditation of individuals performing bridge inspections.

5. Establish Multi-year Funding

A sustainable multi-year funding program will be the essential corner stone to dealing with Ontario's bridge infrastructure rehabilitation backlog for both provincial and municipal bridges.

The province is currently consulting with municipalities on how to address all municipal infrastructure and service delivery needs. Funding for bridge infrastructure is only one part of these discussions. The provision of some form of multi-year funding program for municipalities for bridge infrastructure rehabilitation should be a critical component of the outcome of those discussions.

6. Use Alternative Delivery Methods

Provincial and municipal governments should give serious consideration to alternative delivery methods that address the mounting infrastructure repair and construction backlog, and related funding burden. Alternative delivery methods such as Design-Build, Design-Build-Maintain, Design-Build-Finance-Operate and public private partnerships have been successfully utilized for building other types of

infrastructure, most notably highways and buildings. The adoption of such approaches should be seriously considered to accelerate the work, minimize overall costs and reduce risks for government authorities.

To test the concept alternative delivery methods for bridges, a trial could be established to tender several (or all structures) within a geographic or municipal boundary under a longer term public private partnership contract to include full responsibility for inspection, design, construction and maintenance.

Many of Ontario's bridges are more than 50 years old and in the need for major rehabilitation and reconstruction.

ONTARIO'S BRIDGES - BRIDGING THE GAP

INTRODUCTION

This report on the state of Ontario's bridges[1] was commissioned by the Residential and Civil Construction Alliance of Ontario. It is intended to broadly and objectively review the current state of the province's bridge infrastructure, and to look at key issues relating to the procedures and processes currently in place to ensure and enhance public safety associated with the use of these facilities.

At the present time there is no comprehensive bridge inventory of municipally-owned bridges in the province. The study cannot, therefore, offer a comparison or statistical analysis of the bridges in Ontario. It does, however, provide a number of recommendations that will ensure a healthy future for our provincial bridge infrastructure. The tone of this report is designed to be constructive. It avoids the temptation for "finger pointing" or finding fault with any party. Instead, it provides important findings that will allow us to learn from our experience and to implement proactive solutions that will protect us from complacency. The recent unfortunate events in Quebec and Minnesota remind us that we have to be vigilant and be ready to take timely, responsible action to safeguard the public from potential infrastructure failures.

The information foundation for this report was obtained from interviews undertaken with Ministry of Transportation, Ontario (MTO) staff, from statistical information and interviews derived from a number of Ontario municipalities and their local officials, from discussions with representatives of the Ontario Good Roads Association (OGRA) and from insights offered by consultants that perform bridge inspections. The report also includes material derived from research undertaken on the subject and from responses to a questionnaire sent out to representatives of all Ontario municipalities.

For clarification, this report has focused on bridges under municipal or provincial ownership. Federal structures and/or bridges under rail jurisdiction have not been analysed.

AGING INFRASTRUCTURE – A GROWING CHALLENGE

The state of infrastructure in North America, Canada and Ontario has been the subject of numerous articles and reports, which universally draw attention to a looming problem with our civic infrastructure. Much of the infrastructure in North America was built in the post World

[1] The terms 'bridge' and 'structure' are often used interchangeably in this report and refer not only to bridges, but also to culverts greater than 3 metres span.

War II era. Whether it is water and sewer treatment facilities, roads, bridges, or hospitals, they are nearing the end of their useful life. There is an urgent need for governments to update, repair, rehabilitate or replace aging infrastructure. Recent media coverage has highlighted the serious consequences of bridge collapses in Quebec and the US, old steam pipes bursting in New York, and an underground pedestrian tunnel closed in Montreal due to fear of structural failure and Ontario has not been immune to the problem: in January 2003 a bridge over the Montreal River in Latchford, Ontario partially collapsed, resulting in the closure of Highway 11.

Most infrastructure professionals are aware of the challenges related to the state of existing infrastructure, but the full extent of the problem may be difficult to quantify. It is clear, though, that the financial resources required to address the problem are significant, and often not readily available. Spending large sums of money on the rehabilitation of existing infrastructure is particularly troublesome to the decision makers who must authorize the expenditures in the face of competing priorities. For this reason, proper rehabilitation is often postponed until a serious problem arises. Suddenly, then, we have to spend large amounts of unbudgeted money to fix the problem. Worse, we may also have to contend with additional negative consequences of a failure.

A recent article in the Canadian Economic Observer, "From Roads to Rinks: Government Spending on Infrastructure in Canada"[2] provides some valuable insight into patterns of government infrastructure investment in Canada. Spending on government infrastructure in Canada (including Ontario) was significantly higher in the period from 1961 to 1971 than in more recent periods. For example, in Ontario, annual growth in infrastructure capital (adjusted for inflation) for roads, including bridges, was as follows:

Table 1: Annual Growth in Roads and Bridges Capital Infrastructure - Ontario	
1961-1971	4.5% per annum
1971-1981	2.2% per annum
1981-1991	0.4% per annum
1991-2001	1.3% per annum
2001-2005	3.0% per annum

Table 1 shows that although there has been resurgence in spending on roads and bridges since 2001, a significant proportion of the roads and bridges inventory in Ontario dates back to investment undertaken in that 1961-1971 period.

This article also highlights the pronounced shift in "ownership" of government assets to the municipal sector. Although not reported separately for Ontario, the average annual growth from 1961 to 2005 for roads and bridges capital infrastructure (adjusted for inflation) by the three levels of government illustrate this trend.

Table 2: Annual Growth in Roads and Bridges Capital Infrastructure by Jurisdiction 1961-2005 - Canada	
Federal	-1.5% per annum
Provincial	1.3% per annum
Municipal	3.3% per annum

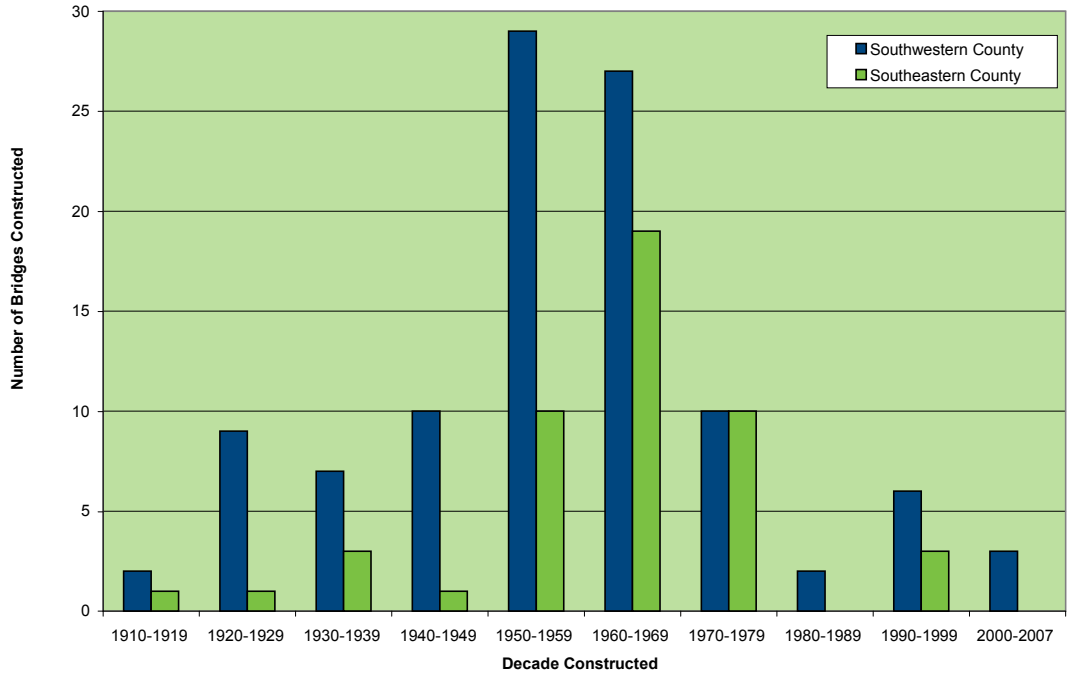
By 2005, roads and bridges represented 39.9% of all government-owned infrastructure assets in Ontario. Additionally, 67% of all capital infrastructure assets are now owned by Ontario municipalities (this has increased from only 38% in 1961). Although the distribution is not reported specifically for Ontario, as Table 3 shows, roads (including bridges) have a very high municipal ownership component:

[2] Canadian Economic Observer, September 2007, Statistics Canada - Catalogue no. 11-010

Table 3: Distribution of Roads Capital Assets 2005 - Canada	
Federal	2.0% per annum
Provincial	51.3% per annum
Municipal	46.7% per annum
	100% per annum

In this study specific bridge infrastructure information from two southern Ontario municipalities were examined. Figure 1 shows the age profile of the bridges in these two municipalities and clearly demonstrates the looming problem. Most bridges were built between 1950 and 1980 and are approaching the time for major rehabilitation or replacement. This age profile is, in our view, representative of most bridges in Ontario.

Figure 1 - Age Profile of Bridges in two Ontario Counties



Depending on the type of structure, construction methodology and degree of maintenance, it is expected that most structures will require costly rehabilitation or replacement after 50 years of life. Structures built prior to the 1970's did not use air entrained concrete and coated steel reinforcing bars to protect from the effects of freeze-thaw cycles and the application of winter salt. Accordingly, bridge decks, railings and barrier walls are all likely candidates for expensive

Most bridges were built between 1950 and 1980 and are approaching the time for major rehabilitation or replacement. This age profile is, in our view, representative of most bridges in Ontario.

replacement on the majority of these older bridges. Other concrete and steel structural components exposed to traffic and chlorides, such as piers and sub-structure elements, are also likely to require extensive rehabilitation.

This analysis of our aging infrastructure highlights a number of key points:

- The aggregate roads and bridges inventory in Ontario is aging. Although there has been resurgence in investment since 2001, this was not the case in the previous twenty years;
- Extensive rehabilitation of our aging bridge infrastructure is needed;
- Municipalities have become the more important "owners" of government assets compared to assets "owned" by either of the other two levels of government; and
- The value of roads and bridges "owned" by municipalities is approximately equal to that "owned" by the province.

LEGISLATIVE FRAMEWORK

Although legislation requires that the condition of bridges in Ontario be continually monitored, it is unclear as to who has the overall responsibility for this action in the province. This is particularly so in the case of municipal bridges and culverts.

The responsibility for bridge maintenance and safety is generally governed by the Public Transportation and Highway Improvement Act R.S.O. 1990 (PTHIA) and associated Regulation 104/97 "Standards for Bridges". This legislation clearly states that MTO is responsible for the maintenance and repair of the "King's Highway" (s.33) which, by definition, includes bridges and other appurtenances.

Regulation 104/97 under the PTHIA requires that bridge inspections:

- Occur at least every second calendar year;
- Be under the direction of a Professional Engineer; and
- Be in accordance with the "Ontario Structure Inspection Manual" (as may be amended).

The Regulations also stipulate that every bridge on a King's Highway shall be kept in a state of good repair. The legislation is, however, not specific about municipally-owned roads and bridges. The legislation states that the Lieutenant Governor may designate a road as a King's Highway and may transfer a King's Highway to a municipality for the purposes of maintenance required by the PTHIA (s.7). It is not clear, though, whether this Act applies directly to roads within an organized municipality if they are not first designated as highways for the purpose of the Regulations. It could be interpreted, however, that the Act indicates that all "highways" (including, by definition, bridges as municipal roads) shall be inspected bi-annually in accordance with the requirement to maintain King's Highways.

Although the Municipal Act S.O. 2001 clearly indicates that a municipality shall keep its highways and bridges in a state of repair that is reasonable (s.44), the legislation also states that the Minister of Transportation may make regulations establishing minimum standards of repair. These standards are spelled out in Regulation 239/02, "Minimum Standards for Municipal Highways", but the Regulations refer only to frequency of patrolling, winter maintenance, surface repair, cleaning, luminaries, signs, traffic control, and bridge deck repair. General repair and maintenance of bridges and culverts does not appear to be specifically addressed by the Municipal Act and associated Regulations.

BRIDGE INVENTORY RESPONSIBILITY

The "2004 Annual Report of the Office of the Provincial Auditor of Ontario" (2004 and the 2006 follow-up report) states:

> "The Ministry of Transportation has indicated that its Bridge Management System (BMS), which contains complete and accurate information on Ministry bridges and culverts, has been reconciled with its paper records."[3]

This report covers provincial bridges that are clearly the responsibility of the MTO. The responsibility for municipal bridges, however, is less clear, as is the extent of the infrastructure deficit. According to the Provincial Auditor, it is the Ministry of Transportation's view that municipalities are responsible for maintaining an inventory of their own bridges and for performing related maintenance. This interpretation is consistent with our reading of the legislation. Unfortunately, neither the legislation nor the Provincial Auditor addresses the mechanics of how this inventory is to be obtained and maintained by municipalities.

MTO has addressed this municipal bridge issue in documentation associated with applications under the Canada-Ontario Municipal Rural Infrastructure Fund (COMRIF) which provides infrastructure funding assistance to municipalities with a population of less than 250,000. For COMRIF applications, biennial inspections in accordance with the requirements of the Public Transportation and Highway Improvement Act and associated Regulations are prescribed, and inspections are to be undertaken in accordance with the "Ontario Structure Inspection Manual" (OSIM). There is, however, no indication that this information is currently compiled in a central location and/or aggregated within the Ministry database. We assume that at least the information submitted with the COMRIF applications is available as part of the COMRIF database and could, therefore, be consolidated with the Ministry's system.

Unfortunately, this linkage is not sufficient to complete the inventory as:

- Data are only available for bridges and culverts where funding assistance was requested;
- COMRIF is only available to municipalities smaller than 250,000;
- To date, 75% of funded projects are for municipalities with a population of less than 25,000. It is not known how many larger municipalities applied for funding and submitted an accompanying Bridge Condition Index; and
- This database only incorporates data associated with bridges in need of funding for repairs or maintenance.

The Provincial Auditor also noted that the Ministry had provided funding to the OGRA (in mid 2005) to prepare an accurate inventory of all municipal roads and bridges. This initiative is now underway, but the resulting inventory does not include the data on current conditions (if

[3] 2004 Annual Report of the office of the Provincial Auditor of Ontario

these are available). Our recommendation is that this inventory data could be incorporated into MTO's database.

In December 2006, COMRIF made 1% of the $596 million program (federal and provincial contributions combined) available to help municipalities create an accurate infrastructure asset inventory (Asset Management Program funding). Funds under this program are available for all municipalities except the Regions of Durham, Halton, Niagara, Peel, and York, and the Cities of Brampton, Hamilton, London, Mississauga, Ottawa, and Toronto. The program, which requires one third municipal contribution, has a value of $8.94 million and consists of the following:

- A diagnostic stage, focusing on asset management education;
- An inspection stage, including estimates of condition, remaining useful life, etc.;
- A valuation stage, addressing costing of assets (historic or market value), depreciation, replacement schedules, etc.;
- Sustainability planning; and
- Financial modelling to evaluate funding methods.

This infrastructure asset inventory assistance program is to be completed by March 31, 2009. Applications for funding were to have been received by COMRIF by March 31, 2007. Although this program is not strictly limited to bridges and culverts, it could potentially help establish a reasonable municipal bridge and culvert database (at least for the smaller municipalities in the province). This program will also help municipalities meet or exceed the requirements associated with the upcoming shift to new accounting practices (PS 3150) scheduled to be introduced in January 2009.

At this stage, there is no central agency to monitor all bridge and culvert data assets in the province, although the data may well be available to the MTO and the OGRA. Unfortunately, even if such an inventory were available, it would not necessarily mean that the data would be current or accurate.

MUNICIPAL BRIDGE INVENTORY INFORMATION

In total there are estimated to be 12,000 municipal bridges and 5,400 municipal culverts larger than 3 metres in Ontario. The first activity in this study was to collect as much relevant data as possible on these bridges. OGRA and the MTO were contacted to ascertain what data might be available. While MTO has detailed records for the provincial highway system, there is currently no central repository of bridge information for municipal structures. Uniform records on municipal structures have not been kept since 1997 when MTO last managed the municipal road and bridge grant funding program. Currently there is no provincial agency that manages, oversees or maintains municipal infrastructure records and none that ensures that the bridges are inspected at least once every two years as per the PTHIA. More importantly, as noted earlier, there is no central repository of bridge condition data.

In June 2006, the Public Sector Accounting Board (PSAB) of the Canadian Institute of Chartered Accountants approved revisions to the existing accounting standard for reporting tangible capital assets. These revisions are to be implemented by municipalities in fiscal year 2009. A key PSAB requirement is that municipalities record and report their tangible capital assets in their financial statements. This means that more detailed documentation will be available on municipal bridges in future.

In 2004, the Provincial Auditor's Report identified that the Ministry of Transportation was responsible for ensuring that municipalities adhered to the new legislative requirements for bridge inspections. The report states that:

> "The Ministry did not have adequate systems and procedures in place to ensure that all bridges it is responsible for are inspected at least once every two years, as legislation requires. As well, the Ministry did not obtain adequate assurance that municipalities are meeting the legislated requirement to inspect the thousands of bridges for which they are responsible."[4]

The Ministry responded by making municipalities more aware of their responsibilities. It has made its Bridge Management System available to municipalities at no cost. It has also signed a Memorandum of Understanding with the OGRA, representing Ontario's 445 municipalities, to develop an accurate inventory of municipal roads and bridges (Municipal DataWorks asset management software). It appears, however that MTO is relying solely on each municipality to inventory and perform the required inspections and maintenance. Unfortunately, the full implementation of Municipal DataWorks system is at least a year away from being completed and even when it is, it is voluntary and likely will not address the issue of accountability.

Through COMRIF funding, the Municipal DataWorks asset management program will assist municipalities in meeting this requirement. Because bridges are considered a capital asset, there will be a financial accounting for each bridge asset; however, this record is provided only for accounting purposes and will not reveal whether the bridges are either functional or safe for public use. Furthermore, the Municipal DataWorks asset management program is essentially a voluntary program. OGRA and the provincial government have the right to access only the aggregate information of participating municipalities, not the individual records of any particular municipality. It is unlikely that the Municipal DataWorks will be an effective tool for monitoring or ensuring the safety of bridge infrastructure in Ontario.

BRIDGING THE GAP - QUESTIONNAIRE

In order to see what municipal data are available, MMM Group prepared a questionnaire and distributed it to representatives of over 440 Ontario municipalities. The questionnaire (attached as Appendix A) included some basic questions:

- How many structures do they have currently?
- How many are urban or rural?
- What are the identified needs in terms of number and cost for three time periods? (1) Now (highest priority), (2) in 1-5 years (3) in 6-10 years; and
- Comments on concerns about carrying out inspections in accordance with the regulations.

In order to improve the response rate and timeline, the questionnaire allowed the respondents to provide information in whatever format they already had available. Although desirable, the

[4] 2004 Annual Report of the office of the Provincial Auditor of Ontario



objective was not necessarily to prepare a statistical analysis of the data, but to see to what extent bridge data was available and how it was being used. The responses to this request provided a valuable high level insight into the state of Ontario's bridge infrastructure.

In addition to the questionnaire, discussions were held with the MTO, Region of York, City of Toronto, Town of Oakville, County of Simcoe and Lennox & Addington County. OGRA and engineering firms that conduct bridge inspections and condition surveys were also consulted.

Out of the over 440 questionnaires that were mailed out, information was received or made available from 150 municipalities (approximately 1 out of 3), including information from 89 municipalities associated with the Eastern Ontario Warden's Caucus (EOWC). The data collected encompassed approximately 4,000 of the 12,000 municipal bridges (1 out of 3) and 2,800 of the 5,400 municipal culverts (1 out of 2). A summary of the response data is provided in Appendix B.

As expected, the responses did not provide information in a form that could be used in a meaningful statistical analysis. Responses varied from very detailed structural element needs information to other data with missing and incomplete answers. This significant variation in responses highlights the need to have a consistent approach to data collection, a common understanding of structural needs, and a thorough and consistent reporting process. Although it would be desirable to obtain more standardized statistical reporting information from COMRIF reporting requirements and the Municipal DataWorks program (if it were available), we are not confident that this effort would produce results that would be useful for producing anything beyond a broad, aggregate statement.

Knowing the limitations of the collected data, the data were filtered to remove possible discrepancies. Following are general findings from the analysis undertaken:

- On average, 14% of a municipality's bridges and culverts fall into the Now needs category, and 26% fall into the 1-5 year needs category.
- The average cost of repairs for each municipal bridge/culvert need is about $325,000 in the Now category and $300,000 in the 1-5 year category.
- Extrapolating these average costs to include all municipal bridges and culverts in the province results in an estimated cost of just under $1 billion for Now needs bridges, and at least $2 billion for both the Now and 1-5 year needs combined.
- No further conclusions can be derived from analysing these data, except to confirm that there is an immediate Now need which must be addressed.

PROVINCIAL BRIDGE INVENTORY INFORMATION

The MTO owns, operates and maintains approximately 2,800 bridges and 1,900 culverts larger than 3m span in Ontario. A meeting was arranged with MTO to discuss the status of bridge rehabilitation in Ontario and a request was made for a copy of the provincial data base. Although MTO may provide the applicable standards and guidance for the bridge inspection program, MTO confirms that they do not manage or keep any records of municipal structures. MTO only manages and keeps records on the provincial highway system.

MTO provided an electronic file copy of their bridges across the province. However, the financial needs information was not included in the electronic file.

Based on information received from MTO under the Freedom of Information Act (FOI), the Hamilton Spectator identified some troubling statistics on MTO's bridges. In 2006, only $36 million of the $210 million scheduled for bridge repair on provincial highways in the Golden Horseshoe was actually undertaken; and 187 (7%)

of the 2,670 MTO bridges were not inspected every two years in accordance with Ontario regulations.[5]

As a result of the 2004 Provincial Auditor's report, MTO had targeted to have 85% of its bridges meet a BCI of at least 70 (greater than 70 is considered to be good). If the information reported in the Hamilton Spectator Article is correct, one could infer that the overall condition of MTO's bridges may not be improving as rapidly as they had planned.

MTO has a comprehensive Bridge Management System to keep track of its bridges and has the resources to inspect and monitor its structures. Because MTO has the knowledge and resources to be able to prioritize its work based on a needs basis, one should expect that there is no immediate concern for public safety on the provincial highways.

FUNDING FOR BRIDGE REHABILITATION AND RECONSTRUCTION

As might be expected, governance and funding are probably the most important factors influencing the health of Ontario's bridges. The ability of governments to commit to the rehabilitation and replacement of the infrastructure is primarily driven by funding availability. Bridge repairs and replacement is expensive due to the spans involved, structural elements, specialized construction equipment, technical expertise, traffic/environmental protection as well as the complex nature of the work itself.

Major bridge rehabilitation is measured in millions of dollars even on relatively small structures. This can be a daunting task for municipalities that are faced with having to fund millions of dollars in bridge rehabilitation, and even more so for smaller municipalities.

Governments, and in particular the provincial and federal governments are aware of the imminent needs associated with our aging infrastructure and have responded by implementing a number of programs to assist municipalities. According to Statistics Canada, since 2000, governments have increased their infrastructure capital more than at any other time since the 1960's and 1970's.

Two popular programs include the Rural Infrastructure Investment Initiative (RIII) and the Canada-Ontario Municipal Rural Infrastructure Fund (COMRIF). The RIII is a one-time program (2007) managed by Infrastructure Ontario to help rural and small municipalities provide safe and reliable local infrastructure. COMRIF (commenced in 2004, with the final intake of projects in late 2006) is a partnership between the Government of Canada, the

[5] The Hamilton Spectator - Taxpayers, travellers at risk as Province neglects maintenance - Rob Faulkner, Naomi Powell and Carmeline Prete - July 14, 2007

Government of Ontario and Ontario municipalities. The COMRIF program is, however, specifically aimed at smaller municipalities.

The Ontario Strategic Infrastructure Financing Authority (OSIFA) is a program which offers low-cost, longer-term, fixed-rate loans to help municipalities build and renew essential local infrastructure.

In 2006, the Province of Ontario provided a one-time investment of $400 million to help municipalities (primarily outside the GTA) invest in their roads and bridges.

These programs have provided great assistance to municipalities to help them address their immediate bridge improvement needs; however, there has been no recent long term commitment made by the province or the federal government to address the improvement needs backlog. One time financing initiatives will not solve long term needs or provide municipalities with the stability to plan or program future work.

Even the bridge rehabilitation funding on provincial highways appears to be inadequate. The "2004 Annual Report of the Office of the Provincial Auditor of Ontario" noted that, in 2004, MTO had determined that 32% of the provincial bridges were in need of major rehabilitation or maintenance over the next five years (2003 to 2008).[6] It also noted that historical funding was not sufficient to cover the cost of rehabilitation. Indeed, the Hamilton Spectator's article (based on data obtained through the FOI request) does not provide confidence that the funding deficiency has improved much.

In June of 2007 the Eastern Ontario Warden's Caucus (EOWC) undertook a comprehensive analysis of its road and bridge infrastructure, and was reviewed in the context of this study. The EOWC is comprised of 11 Counties, 2 Single Tier Municipalities and represents 101 municipalities in eastern Ontario (excluding the City of Ottawa). Although the EOWC report did not discriminate between its road and bridge infrastructure, its findings and conclusions offer a good summary of the current situation and are included in Appendix C of this study.

The EOWC report identified a number of issues affecting their ability to fund road and bridge work, including:

- Small population base (700,000 or 17 persons per km^2);
- Only moderate growth (3% change 2001-2006);
- Higher percentage of senior population;
- Income levels well below provincial average;
- Small property tax base ($1 million per km^2);
- More than 90% of total assessment is residential;
- In 2004 & 2005, the assessment growth was less than 2%;
- Approximately 25% of the area is Crown Land (11,000 km^2);
- The financial burden of transferred highways was estimated in 1998 at $25 million (1994 km or 40% went to EOWC); and
- Significant recent municipal tax increases (35.4% in five years).

The EOWC study identified a critical need to resolve the financial gap that exists between their infrastructure needs and their ability to fund the projects. The EOWC municipalities need a sustainable source of funding for their roads and bridge program. In 2006, the EOWC municipalities had a Now need (both roads and bridges) of $616 million. In 2006, they spent $139 million leaving an infrastructure deficit of $477 million.

Some of the EOWC recommendations included the following with respect to provincial financial support:

- Clear provincial investment priorities;

[6] 2004 Annual Report of the office of the Provincial Auditor of Ontario

- Allocation-based funding programs based on objective need rather than competition among municipalities;
- Funding commitments made early in the budget cycle to take advantage of the construction season;
- Multi-year commitments; and
- Need for sustainable revenue stream.

Northumberland County provides a good example of funding problems experienced by Ontario municipalities. The County does not have sufficient funds to maintain its road and bridge infrastructure. It has an inventory of 112 bridges including 48 bridges and 64 culverts greater than 3m span. The age of the structures ranges from those constructed in 1913 to others put in place in 1999. Eighty one percent were built between 1950 and 1979. To add to their problems, the province downloaded 150 km of roads and 29 bridges to the County in 1998.

Because of the age of most of the County's structures, it is facing a major challenge to fund its rehabilitation needs. If bridge repair/rehabilitation is not performed in a timely manner, the rate of deterioration increases exponentially. In 2004, detailed bridge condition surveys were completed and $7 million in urgent needs were identified for 11 bridges. The County made applications for COMRIF funding and was successful in securing funding in 2004 and 2006 but not in 2005. In order to finance its one-third share of the COMRIF program, it made an application to OSIFA for a debenture of $2.27 million. The debenture payment on the OSIFA loan is $270,000 per year for the next 10 years. The County's annual capital bridge repair budget is $450,000 leaving only $180,000 to address all of their other yearly bridge needs. The County further estimates that in today's dollars they still have about $4 million of bridge needs to be addressed.

The County of Northumberland is not alone or the exception. Another significant municipality west of Toronto has similar issues. Eighty percent of its bridges were built more than 30 years ago and even though it is in an area of relatively robust growth it is facing the same funding concerns. Its bridge and culvert rehabilitation Now needs have been estimated to be close to $14 million.

Although the ability to fund infrastructure projects is most acute in smaller municipalities, larger municipalities have similar difficulties. The 2007 City of Toronto budget report identifies a five year strategic plan for improving the repair backlog for bridges, roads, sidewalks, and expressways and estimates the associated cost at $301 million. On November 7, 2007, the City of Mississauga passed a resolution supporting the implementation of a 5% surtax to keep Mississauga's infrastructure (all types) in good condition. The City estimates that it needs about$1.5 billion over the next 20 years to eliminate its infrastructure deficit - an additional $75 million more per year. It is clear that both large and small Ontario municipalities have to take strong measures to address this mounting problem.

If bridge repair/rehabilitation is not performed in a timely manner, the rate of deterioration increases exponentially.

STATE OF MISSOURI CASE EXAMPLE

Ontario is not alone in facing an infrastructure deficit problem. Throughout North America, all levels of governments are looking for innovative ways to solve the problem. The State of Missouri, Department of Transportation (MoDOT) has embarked on a dramatic and innovative course to solve its structural infrastructure needs. That State has solicited proposals to secure a single contractor to replace or rehabilitate more than 800 of MoDOT's most worn-out bridges by the end of 2012 and to maintain them in good condition for at least 25 years. The list of potential bidders has been shortlisted to two large contractors and the MoDOT is expected to make a decision on the preferred candidate very shortly.

The idea of establishing Design-Build-Finance-Operate and public private partnership contracts is not new, but the magnitude and the specific application are. The cost of this contract has been estimated to be in the range of $400 million to $600 million. The potential benefits to MoDOT include:

- Accelerated delivery;
- Long term security;
- Set price;
- Potential lower life-cycle cost; and
- A designated party to respond to problems if and when they occur.

It is too early to assess whether this model will be successful or not; but it will certainly draw a lot of attention and the results are likely to be seriously scrutinized by other road jurisdictions facing similar circumstances.

KEY STUDY FINDINGS

From the information gathered from the questionnaires, the research material obtained and discussions undertaken with a number of agencies and individuals, several key findings have been identified. The issues summarized below are well known within the municipal community and are not intended to be presented as revelations:

- Larger and/or organized municipalities typically have identified their infrastructure rehabilitation requirements (Now, 1-5 year and 6-10 year structural needs). Not unexpectedly, they have the resources and the volume of work to substantiate the program planning efforts.
- With a more recently established infrastructure and a larger tax base to support the rehabilitation/replacement costs, it is expected that larger municipalities and/or those that have experienced recent development growth would be less impacted by the aging infrastructure bubble. However, a number of larger municipalities have also identified problems funding their infrastructure deficit.
- Small, rural municipalities that have a fixed tax base are having the greatest difficulty in addressing their bridge rehabilitation/replacement needs. A single structure requiring several million dollars in repairs can overwhelm the annual budgetary process of a small municipality.
- Downloading of roads and bridges to municipalities has caused a significant financial burden on some municipalities. This is especially true for smaller, rural municipalities.
- In response to the provincial downloading of road infrastructure, some municipalities have uploaded responsibility to higher tier levels (i.e. county) while others have downloaded this responsibility to the local level. Instead of a planned response to the downloading issue, some municipalities have simply defaulted to allow the municipality in the best position to assume the financial and technical responsibilities.

- It is likely that municipalities that lack sufficient financial or technical resources are simply deferring the structural preventive maintenance work at the risk of safety, decreasing the bridge service life and increasing future costs.
- Some municipalities with grade crossings and landform features such as lakes, rivers and other physical barriers within their boundaries have a greater proportion of structural needs compared to others.
- Two thirds of the Ontario municipalities who received the questionnaire did not respond. There is no way of knowing if they did not respond because they were simply too busy or because they did not have the information.
- There is no comprehensive municipal bridge data repository to verify the bridge condition status, and there is no one responsible to review the data. There is no assurance that the municipal bridges in Ontario are safe and are being maintained and operated properly.
- There is no oversight or enforcement to ensure that bridge inspections are being performed consistently and in accordance with the legislation. There is no way of knowing definitively if all Ontario bridges are safe.
- There is concern that the competitive process used to award bridge inspection work is adversely affecting the thoroughness of the inspections. This process may be discouraging the use of higher cost state-of-the-art bridge testing technologies, or work being undertaken by more highly paid but appropriate accredited professionals
- One time government funding programs do not allow municipalities to properly plan and budget bridge rehabilitation work.
- Typically funding programs require municipalities to compete for a fixed pot of money, which is an inefficient way to distribute the work. Additional resources are often spent to fill out the funding application forms to justify needs (usually on short notice). Those municipalities that do not have the resources available (but may have the greatest need) are likely to be the ones least able to respond positively and in a timely manner.
- Funding programs are often out of sync with municipal budgetary cycles making it difficult for municipalities to properly plan for this activity.
- Provincial-Municipal funding trade-offs between essential services such as health, social services, education and roads/bridges do not provide an equitable distribution of funds since some municipalities have a greater proportional share of the road and bridge infrastructure.
- Historically provincial budget allocations for health and other social services have been given a higher priority than core infrastructure (roads and bridges) projects.
- Other North American jurisdictions are struggling with the same infrastructure deficit problems and are trying innovative solutions to address the need for immediate action and the funding shortfall.

CONCLUSIONS

Ontario has a bridge infrastructure deficit that could lead to serious problems. The province is not alone in this regard, for the problem is being experienced by most jurisdictions in North America. Preoccupied by a variety of other funding demands (e.g. health or social services), all levels of government have for a number of years sought to defer the needed infrastructure maintenance and rehabilitation work. Continuing on this path is not sustainable and can only lead to negative consequences that will adversely affect public safety.

Perhaps the most disconcerting observation from the current bridge infrastructure dilemma in the province is that no single agency or government body has all the information on the state of the municipal infrastructure. Furthermore there is no one agency responsible for ensuring that the bridge inspections and rehabilitation work is being carried out.

With respect to this observation, it is impossible to say whether there is any bridge safety concern in Ontario as the data to support such a conclusion is generally not available. In those cases where some detailed data may be available, it is unclear whether the data is accurate enough to draw relevant conclusions.

With respect to oversight responsibilities, the province is relying on the OGRA's Municipal DataWorks inventory program to keep track of municipal infrastructure. However, the OGRA does not have the mandate to be responsible to ensure that all municipalities comply with their legal responsibilities and the individual municipal data will not be available to the province to enforce. Municipalities need a provincial body to provide the leadership and support in terms of the oversight, standards, expertise and funding.

There is good reason to believe that the provincial bridge system is safe, but reliable centralized data that would allow us to conclude the same for municipal bridges does not exist. Thus while there is no definitive reason to believe there is a problem, the lack of comprehensive data to prove or refute a conclusion on this matter cannot be drawn.

Ontario should be mindful of a similar experience it had in relation to public infrastructure safety, and should be concerned about repeating the same mistakes for bridges. In May 2000, the drinking water in the small community of Walkerton, Ontario became contaminated, leading to the death of seven people. Broadly speaking, in the Walkerton case, the municipality was responsible for providing safe drinking water and the Ministry of the Environment (MOE) was responsible for overseeing what the municipality was doing. As in most major disasters, there was a sequence of events (multiple failures) that led to the eventual catastrophic results. One of the key elements of the failure was found to be the lack of provincial oversight of the municipality. While this may be an unfair comparison, the similarities should signal concern and warrant taking action to address the oversight matter as soon as possible to ensure the safety of all of Ontario's bridges.

As a result of Walkerton there have been a number of changes to protect the public, including a greater role for MOE to "police" municipal water treatment installations, legislative changes, standards setting, responsibility to report deficiencies and accreditation requirements; all of which could be similarly applied to improving the municipal bridge inspection program and ensuring public safety.

The Public Transportation and Highway Improvement Act requires municipalities to inspect all bridges and culverts at least once every two years. However, compliance with these requirements is entirely up to the municipalities. It is quite probable that some municipalities are not fully aware of their responsibilities in this area, or it is also conceivable that inadequate or insufficient resources are involved. A provincial agency, such as MTO, needs to be more proactive to ensure that municipalities are inspecting bridges in accordance with regulations and that the bridges are safe for public use.

Current regulations require inspections to be done under the guidance of an engineer. This regulation should be strengthened to ensure it is performed by qualified Professional Engineers. Many of today's bridges are too complex to trust inspections to anyone other than experienced professionals. The current cost-critical competitive process for hiring bridge inspection services discourages thoroughness and the use of qualified professionals. The need for proper accreditation was a matter raised in the Quebec de la Concorde Commission of Inquiry.

An important concern in this area lies with municipalities that do not have the resources or the tax base to fund required rehabilitation. Because of funding pressures these municipalities tend to act on a short term basis, and simply react to infrastructure rehabilitation needs. This situation only exacerbates the problem. Smaller municipalities typically do not have sufficient funds for emergency repairs. They may also not have funds available to conduct program preventive bridge rehabilitation or undertake bridge inspections on a regular basis.

Many smaller municipalities do not have the resources or technical expertise to evaluate and maintain their bridge infrastructure. Some may not have an engineering department, so they lack the depth or prerequisite knowledge. There is no consistent application across Ontario; in some cases the higher tier municipality (i.e. county level) will assume the responsibility for all structures simply because the lower tier municipality lacks the depth of experience to do so.

Alternate sources of funding through special programs such as RIII, COMRIF and OSIFA have been well received. Many municipalities have been able to take advantage of COMRIF funding to undertake badly needed bridge rehabilitation. It is ironic that the COMRIF program is managed by the Ministry of Agriculture, and may speak to the significance of the issue. While the funding program was set up to help agricultural based municipalities, their most pressing needs often relate to their transportation infrastructure.

Even larger municipalities have identified problems funding their projected infrastructure deficits. Some might argue that these problems are due to poor fiscal management and that senior levels of government should not be required to intervene. With the potential safety of the public at risk and the obvious problems municipalities are having securing the necessary rehabilitation funds, an acceptable solution must be found with the cooperation of senior levels of government. Municipal needs must be reviewed on a case by case basis and appropriate action taken. A one-size-fits-all strategy will not address the overall infrastructure deficit funding problem.

Although essential to getting the infrastructure projects underway, one time government funding programs are simply not the most efficient means to get the work done. One time funding does not allow for the proper planning and programming that bridge infrastructure rehabilitation requires. The philosophy of municipalities having to "compete" for infrastructure rehabilitation funds is flawed. Funding should be based on an established need which can



be derived from a uniform provincial database (Bridge Condition Index reports). The resources expended on applying for grants are likely wasted. A multi-year funding program that municipalities can rely on is essential to ensure the safety of our bridges infrastructure.

Public funding sources, whether federal, provincial or municipal, are limited. There is always pressure from competing public services for available investment dollars. Alternative funding and delivery methods should be seriously considered as a means to address the mounting infrastructure needs. An overriding objective should be to deliver the infrastructure rehabilitation or reconstruction in a timely, efficient and cost effective manner.

QUEBEC - REPORT OF THE COMMISSION OF INQUIRY – DE LA CONCORDE OVERPASS COLLAPSE

The Commission of inquiry into the collapse of a portion of the de la Concorde overpass issued their report in October 2007. It is a clear and insightful report with sound recommendations. The report clearly addresses issues raised from the de la Concorde collapse, but there are lessons that can be learned from the Quebec's unfortunate experience and applied in Ontario. The following discussion includes elements of the report that have been extracted for possible application to Ontario. It is not intended to be a full commentary of the Inquiry's Report. The Commission's report can be found at:

http://www.cevc.gouv.qc.ca/UserFiles/File/Rapport/report_eng.pdf

One of the systemic problems in the Quebec case appears to be a failure of the organization to recognize problems and take appropriate action. The study asserts that any organization responsible for the safety of the public must take its responsibilities seriously and be proactive in that regard.

> "While the collapse of the de la Concorde overpass happened in an instant, this tragedy is the culmination of a gradual deterioration that was many years in the making. At play were both organisational and human causes that include failure to fulfill obligations and to comply with procedures, incomplete files, lack of team work, missed evaluation opportunities, and an approach that did not take into account the special character of this overpass. On September 30, 2006, the de la Concorde overpass just about collapsed under its own weight. To do so, it had to have reached an advanced state of deterioration."[7]

This finding underlines the need to have a clear governance structure and a proactive organization culture. There is a need in Ontario to ensure that the information on bridge conditions is available, that someone is clearly responsible and that appropriate measures are being taken to ensure the public's safety.

The report makes a number of valuable recommendations dealing with design, standards, construction, acquisition processes and inspection procedures. The following are deemed most pertinent to this study:

> **"12. Improve the MTQ's culture and work methods**
>
> The Commission is of the opinion that the Ministère must take action to address shortcomings in respect of its work, notably, as regards to poor record keeping, unclear accountability and the apparent difficulty of engineers to impose their professional judgment. The Ministère should implement an action plan to rectify this situation."[7]
>
> **"13. Prepare and maintain complete records**
>
> The Commission recommends that the Ministère implement an accelerated, comprehensive and easily accessible on-line system containing all records and data relevant to the structure,

[7] Report of the Commission of inquiry into the collapse of a portion of the de la Concorde overpass October 3, 2006 - October 15, 2007

including reports on inspections and repair activities. The Commission also addresses this recommendation to municipalities with populations of over 100,000."[7]

The need for reliable data and records of the infrastructure is a repeating theme. Along with the data is the oversight role to ensure that inspections are being performed and measures taken when deficiencies are identified.

"16. Clarify accountability with respect to the MUNRN*

The Commission is of the opinion that the management framework of MUNRN bridges should be reviewed to better reflect reality. On the one hand, the MTQ evaluates the bridges, determines the priority of rehabilitation work and subsidises the work, while on the other, small municipalities do not and will never have the necessary resources to manage structures of this magnitude.

The MTQ should regain ownership of all the MUNRN bridges or, at the very least, fully assume responsibility for their inspection, maintenance and ultimately, replacement. The Commission is of the opinion that municipalities should remain responsible for street lighting, road signs, sidewalk maintenance and snow removal on structures on their territory."[7]

[* MUNRN refers to the municipal road network]

In Quebec, the Ministère des Transports du Québec (MTQ) already has certain responsibilities for inspecting, prioritizing and subsidizing municipal bridges in municipalities with less than 100,000 population. Due to the lack of resources at the municipal level, the Commission goes further to recommend that MTQ should assume full responsibility for those structures.

In Ontario, by comparison, the province has taken the position that municipalities are responsible for their own bridges and it provides no inspection and no subsidy. In Quebec there now seems to be a greater recognition that municipalities require an enhanced ability to resource their bridge rehabilitation needs (financial and technical). The Commission recommends that a programme be established with a budget of $500M/year for 10 years to be dedicated exclusively to the rehabilitation and reconstruction of existing bridges.

"This is a massive undertaking that will span many years. Meanwhile, Québec must continue to properly manage its aging structures."

"…the magnitude of the programme dictates that it be managed as a major project, using best governance and management practices, rather than being subjected to the usual constraints of on-going operations."[7]

Ontario is fortunate that its bridges are generally in better condition than Quebec. However, the costs to rehabilitate and replace Ontario bridges will also be significant. The current bridge rehabilitation needs in Ontario are not quantified but the years of deferrals will take their toll. Ontario will similarly be unable to fund this infrastructure work through normal annual funding

allotments and it will have to establish a long term funding program to handle not only the provincial owned infrastructure but also the municipal infrastructure.

In response to the tragedy and the Commission's Report, the Quebec Government has set up a special agency to manage all structures in Quebec. While there will be some criticism for setting up "yet another" agency, it is understandable that under the circumstances the province needed to take immediate and decisive action. Hopefully Ontario can take a more proactive approach by using its existing technical and financial resources to develop province wide rehabilitation and reconstruction plans and programs.

RECOMMENDATIONS

From this analysis, the most pressing need is to identify the state of municipal bridge infrastructure. No one can tell with certainty whether all of the bridges in Ontario have been inspected and whether there is a safety concern. Steps have been taken through funding programs to assist municipalities to create an accurate asset inventory (including bridges), but these activities are essentially voluntary. The database that is to be developed will not be scrutinized by anyone with the appropriate mandate. There is in no mechanism in place to ensure that municipalities are doing what is required and expected, that bridge inspections are performed every two years, and that appropriate bridge repairs are undertaken or that the bridges are in fact safe.

In order to ensure the public's safety, the provincial government needs to take a leadership role in the area of bridge safety. The following are specific recommendations:

1. **Ensure that Safety is Paramount (highest priority)**

   The Ministry of Transportation (MTO) has the technical expertise and should immediately obtain and review all of the municipal records to ensure that bridge inspections have been completed. It should also identify where inspections are required and prioritize bridges that need repairs in the "Now" and in the "1-5 year" time periods. This action is most urgently required for smaller and northern municipalities.

   This initiative should be taken early this winter so that if any further bridge inspection and/or rehabilitation work is required, it can be programmed to commence early next spring.

   MTO should take a leadership role and assume the responsibility to ensure that all inspections have been completed. It should prepare a comprehensive status report that identifies the Now and 1-5 year bridge needs for all Ontario's bridges before the end of next summer.

2. **Implement Governance Reforms**

   The Ministry of Transportation should become the custodian of all the bridge records in the province and integrate that information into a single data base under its jurisdiction. With this information, the province will then be able to determine the nature and extent of any problems. It should maintain the quality and currency of the database and use this information to develop strategic and financial plans to deal with the province's needs. Having control of the database would assist the provincial government in determining the benchmarks and needs, and prioritize funding initiatives.

   With such a database in place, MTO could ensure that bi-annual bridge inspections are carried out.

3. Provide Technical Leadership

MTO should continue to provide municipalities with the technical expertise, guidance and standards for bridge design, construction, maintenance and inspection. Uniform reporting and bridge condition standards should be established across the province.

The Ontario government should provide support for research and development in the areas of bridge testing and inspection technologies, and in bridge engineering designs that improve the life expectancy and reduce maintenance costs of bridges. Advanced bridge inspection techniques and technology should be encouraged.

4. Strengthen Provincial Legislation

Legislation may need to be updated to more clearly define municipal and provincial bridge responsibilities.

Legislation must be strengthened to ensure the proper accreditation of individuals performing bridge inspections.

5. Establish Multi-year Funding

A sustainable multi-year funding program will be the essential corner stone to dealing with Ontario's bridge infrastructure rehabilitation backlog for both provincial and municipal bridges.

The province is currently consulting with municipalities on how to address all municipal infrastructure and service delivery needs. Funding for bridge infrastructure is only one part of these discussions. The provision of some form of multi-year funding program for municipalities for bridge infrastructure rehabilitation should be a critical component of the outcome of those discussions.

6. Use Alternative Delivery Methods

Provincial and municipal governments should give serious consideration to alternative delivery methods that address the mounting infrastructure repair and construction backlog, and related funding burden. Alternative delivery methods such as Design-Build, Design-Build-Maintain, Design-Build-Finance-Operate and public private partnerships have been successfully utilized for building other types of infrastructure, most notably highways and buildings. The adoption of such approaches should be seriously considered to accelerate the work, minimize overall costs and reduce risks for government authorities.

To test the concept alternative delivery methods for bridges, a trial could be established to tender several (or all structures) within a geographic or municipal boundary under a longer term public private partnership contract to include full responsibility for inspection, design, construction and maintenance.

In order to ensure the public's safety, the provincial government needs to take a leadership role in the area of bridge safety.

APPENDIX A
QUESTIONNAIRE

MMM GROUP

80 Commerce Valley Dr. East
Thornhill, ON Canada L3T 7N4
t: 905.882.1100 | f: 905.882.0055

www.mmm.ca

November 13, 2007
16-07077-01-PM1

Name of Municipality

Dear XXX:

Re: Request for Statistical information on Bridges and Major Culverts

The MMM Group has been retained by the Residential and Civil Construction Alliance of Ontario (RCCAO) to investigate and prepare a report on the condition of bridges and major culverts in Ontario. As part of the review, we are requesting Ontario municipalities to provide us with a copy of their summary structural data within their jurisdiction. It is anticipated that the report will provide a preliminary understanding on the health of bridges and major culverts in Ontario and long term funding challenges.

As a brief introduction, the RCCAO was founded in the fall of 2005 representing an alliance of labour and management stakeholder groups in the civil construction industry. The RCCAO's objectives are to address some of the major infrastructure challenges affecting industry and society as a whole today, by undertaking substantive and qualitative research and provide real solutions to some of these challenges. You can find more information about the RCCAO at their website, www.rccao.com.

The MMM Group has been conducting interviews with a number of municipalities but we believe it is important to gather more substantive data on the state of bridges and major culverts across Ontario by sending this request to a larger constituency of municipalities. We are not looking to single out any particular municipality or geographic area but rather to gather general statistics across the province. While we don't intend on identifying specific municipalities we do believe it is important to recognize any differences such as between upper tier and lower tier municipalities, or urban versus rural areas. Our goal is to aggregate the data as a whole; in the event that we believe it useful to illustrate data from a specific municipality, the MMM Group will request permission before doing so.

To that end we were hoping you could provide us with information on the bridges and major culverts in your municipality. We recognize that resources are thin and we do not want to create additional workload tabulating data for this project. We would be happy to accept the information in the most convenient form you may have available to provide such as current summary or budgetary reports. If it is of assistance we have provided a simple form you may fill out and return. The following is a list of the typical information we are collecting on municipal bridges and major culverts:

- number of bridges and culverts within your jurisdiction;
- timing of rehabilitation needs (now, 1-5 years, 6-10 years); and
- funding needs (now, 1-5 years, 6-10 years).

If you feel inclined, we would also be very interested in any additional comments you might have with respect to the challenges in your municipality, such as:

- ability to fund recurring maintenance of bridges and major culverts;
- process to inspect bridges every two years as required by legislation; and
- any other comments you may have.

You can direct your response to me in writing, by fax or by email. We would be pleased to accept documents in any format including, word, excel, PowerPoint or PDF. If you have any questions, feel free to contact me by phone or email. In my absence, you may also contact Ed Ellard in our Transportation Department.

Thank you in advance for your cooperation.

Yours very truly,

MMM GROUP

Bob Nairn, P.Eng
Transportation Director
nairnb@mmm.ca

Or alternatively you may contact:
Ed Ellard, P.Eng
Senior Project Manager
Transportation Planning
(905) 882-4211 x636
ellarde@mmm.ca

Condition of Bridges and Major Structures

Name of Municipality:			
Number of Structures (Provide total if breakdown not available)		Bridges	Major Culverts
	Urban		
	Rural		
	Total		
Now Needs	Needs (No.)		
	Estimated Value ($)		
1-5 year Needs	Needs (No.)		
	Estimated Value ($)		
6-10 year Needs	Needs (No.)		
	Estimated Value ($)		
Comments:			

APPENDIX B
SUMMARY DATA FOR REPORT

Ontario's Bridges - Response to Questionaire

9-Nov-07

Municipality	Number of Structures						Now Needs						1 - 5 Year Needs						6-10 Year Needs						Relevant Comments
	Bridges			Major Culverts			Bridges		Major Culverts		Total		Bridges		Major Culverts		Total		Bridges		Major Culverts		Total		
	Urban	Rural	Total	Urban	Rural	Total	Needs	Estimate($)	Needs	Estimate($)	Needs	Estimate($)	Needs	Estimate($)	Needs	Estimate($)	Needs	Estimate($)	Needs	Estimate($)	Needs	Estimate($)	Needs	Estimate($)	
City of Barrie											-	-					-	-					-	-	
City of Belleville			49			15		$3,200,000		$311,000.00	-	$3,511,000.00		$2,616,000.00		$33,000.00	-	$2,649,000.00		$51,000.00		$341,000.00	-	$392,000.00	Data Obtained from CIty of Belleville Municipal Structure Inventory and Inspection 2006 report
City of Brampton			50			131	4	$717,923			4	$717,922.80	9	$1,208,259.12	8	$110,707.33	17	$1,318,966.45	22	$2,402,599.62	21	$1,375,480.81	43	$3,778,080.43	Majority of structures are urban. Costs are for maintenance of existing structures.
City of Brantford											-	-					-	-					-	-	
City of Brockville											-	-					-	-					-	-	
City of Burlington											-	-					-	-					-	-	
City of Cambridge											-	-					-	-					-	-	
City of Clarence-Rockland			11			4		u			-	-		u			-	-		u			-	-	
City of Cornwall											-	-					-	-					-	-	
City of Elliot Lake	0	0	0	1	0	1			0	$0.00	-	-			0	$0.00	-	-			0	$0.00	-	-	All major culverts have been replaced. The only one meeting the 10 ft or larger size was replaced in fall 2006
City of Guelph											-	-					-	-					-	-	
City of Hamilton											-	-					-	-					-	-	
City of Kawartha Lakes			151			65		$19,654,000			-	$19,654,000.00		$12,384,000.00			-	$12,384,000.00		$1,501,000.00			-	$1,501,000.00	
City of Kenora											-	-					-	-					-	-	
City of Kingston											-	-					-	-					-	-	
City of Kitchener											-	-					-	-					-	-	
City of London											-	-					-	-					-	-	
City of Mississauga	135		135	78		78	7	$1,600,000	6	$102,000.00	13	$1,702,000.00	33	$2,700,000.00	15	$448,000.00	48	$3,148,000.00	23	$2,800,000.00	9	$374,000.00	32	$3,174,000.00	2005 Data Collection. Values and quantities provided reflect component totals from each structure (Bridge). 50 Additional Structures will be asse
City of Niagara Falls	8	38	46	8	11	19	8	$5,000,000	0	$0.00	8	$5,000,000.00	5	$1,400,000.00	1	$70,000.00	6	$1,470,000.00	0	$0.00	1	$200,000.00	1	$200,000.00	None
City of North Bay											-	-					-	-					-	-	
City of Orillia											-	-					-	-					-	-	
City of Oshawa	16	9	25	21	15	36	8	$5,119,000	4	$655,000.00	12	$5,774,000.00	8	$727,000.00	10	$1,291,000.00	18	$2,018,000.00	2	$18,000.00	3	$ 86,000.00	5	$104,000.00	
City of Ottawa											-	-					-	-					-	-	Minimum Inspection is once every two years. Maximum inspection is once every three months.
City of Owen Sound											-	-					-	-					-	-	
City of Pembroke											-	-					-	-					-	-	
City of Pembroke											-	-					-	-					-	-	
City of Peterborough											-	-					-	-					-	-	
City of Pickering											-	-					-	-					-	-	
City of Port Colborne											-	-					-	-					-	-	
City of Quinte West											-	-					-	-					-	-	
City of Sarnia											-	-					-	-					-	-	
City of Sault Ste. Marie			30			8	9	$5,000,000			9	$5,000,000.00	5	$10,000,000.00			5	$10,000,000.00	unknown				-	-	
City of St. Catharines											-	-					-	-					-	-	
City of St. Thomas											-	-					-	-					-	-	
City of Stratford											-	-					-	-					-	-	
City of Temiskaming Shores											-	-					-	-					-	-	
City of Thorold			10			2	2	$707,000			2	$707,000.00	3	$53,000.00	1	$221,000.00	4	$274,000.00					-	-	
City of Thunder Bay											-	-					-	-					-	-	
City of Timmins											-	-					-	-					-	-	
City of Toronto	450	50	500	225	75	300	20	$29,500,000	2	$1,000,000.00	22	$30,500,000.00	100	$147,500,000.00	2	$2,500,000.00	102	$150,000,000.00	100	$175,000,000.00	20	$ 3,000,000.00	120	$178,000,000.00	
City of Vaughan											-	-					-	-					-	-	
City of Waterloo											-	-					-	-					-	-	
City of Welland											-	-					-	-					-	-	
City of Windsor			79			8					-	-					-	-					-	-	5-7 Million per year annually is needed . 2007 budget is 1.5 million. See original document.
City of Woodstock											-	-					-	-					-	-	
County of Brant	5	89	94		55	55	24	$14,666,200	2	$4,000.00	26	$14,670,200.00	27	$2,111,300.00	10	$1,076,700.00	37	$3,188,000.00					-	-	
County of Bruce											-	-					-	-					-	-	
County of Dufferin											-	-					-	-					-	-	
County of Elgin											-	-					-	-					-	-	
County of Essex											-	-					-	-					-	-	
County of Grey											-	-					-	-					-	-	
County of Haliburton			18			22		$4,871,000		$1,037,000.00	-	$5,908,000.00		$5,506,000.00		$1,232,000.00	-	$6,738,000.00				$7,000.00	-	$7,000.00	Information from Road Needs study Updated bt TSH in 2006
County of Hastings											-	-					-	-					-	-	Entries Contain NA
County of Huron											-	-					-	-					-	-	
County of Lambton	4	67	71	6	113	119					-	-					-	-					-	-	Still in process of tabulating needs and funding requirements following the latest inspection round and will not be able to provide this information fo
County of Lanark			45			35		$2,000,000			-	$2,000,000.00		$6,000,000.00			-	$6,000,000.00		$6,000,000.00			-	$6,000,000.00	
County of Lennox & Addington			53			10	13	$2,886,000	6	$40,000.00	19	$2,926,000.00	16	$1,036,000.00	5	$7,000.00	21	$1,043,000.00	7	$97,000.00	2	$31,000.00	9	$128,000.00	Approximately 40% of the County's identified Bridges and Major Culvert needs are structures that were downloaded by the Province to the County
County of Northumberland			45			66	5	$3,203,000			5	$3,203,000.00	3	$1,174,000.00			3	$1,174,000.00	N/A				-	-	The ability to fund the significant road and bridge needs remains a challenge. The downloading of 150km of provincial highways to the county in 1
County of Oxford											-	-					-	-					-	-	
County of Perth			68			48	N/A	$2,656,000	N/A	$1,286,000.00	-	$3,942,000.00	N/A	$2,956,000.00	N/A	$798,000.00	-	$3,754,000.00	N/A	$271,000.00	N/A	$26,000.00	-	$297,000.00	
County of Peterborough	0	130	130	0	19	19	87	$5,472,000	3	$85,000.00	90	$5,557,000.00	83	$5,508,000.00	3	$47,000.00	86	$5,555,000.00	39	$666,000.00	0	$0.00	39	$666,000.00	Most of the County is rural, with the largest city being Peterborough. All bridges and culverts were considered as rural
County of Prince Edward			44			0		$1,200,000			-	$1,200,000.00		$400,000.00			-	$400,000.00		$600,000.00			-	$600,000.00	Bridge amount includes all structures 3 metres or greater, we do not separate.
County of Simcoe											-	-					-	-					-	-	
County of Wellington											-	-					-	-					-	-	
County of Renfrew			79			170		$7,200,000			-	$7,200,000.00		$19,500,000.00			-	$19,500,000.00		$19,500,000.00			-	$19,500,000.00	All costs are based on 2006 values.
District Municipality of Muskoka											-	-					-	-					-	-	
Haldimand County	10	116	126	2	130	132					18	$7,300,000.00					87	$8,200,000.00					46	$900,000.00	
Loyalist Township			13			10		$260,000			-	$260,000.00		$1,695,000.00			-	$1,695,000.00		$400,000.00			-	$400,000.00	Estimate for "needs" may be 15-20% low based on 2007 tender results. 2006/7 funding boosted significantly by Federal and Provincial grants. Pre
Municipality of Arran-Elderslie			58				36	$800,000			36	$800,000.00	2	$1,000,000.00			2	$1,000,000.00	3	$1,000,000.00			3	$1,000,000.00	
Municipality of Bayham											-	-					-	-					-	-	
Municipality of Brighton			5			21		$50,000			-	$50,000.00		$500,000.00			-	$500,000.00		$750,000.00			-	$750,000.00	The Move Ontario Program has been much appreciated. We would like to have a long term annual program like that for our Roads & Bridges.
Municipality of Brockton											-	-					-	-					-	-	
Municipality of Callander											-	-					-	-					-	-	
Municipality of Calvin											-	-					-	-					-	-	
Municipality of Central Elgin	0	14	14	0	16	16	0		0		-	-	27	$396,000.00	4	$201,000.00	31	$597,000.00					-	-	
Municipality of Central Huron											-	-					-	-					-	-	
Municipality of Centre Hastings			8			10		$500,000			-	$500,000.00		$1,500,000.00			-	$1,500,000.00		u			-	-	Springbrook Road and Moira Road in bad need of resurfacing and upgrading.
Municipality of Charlton and Dack											-	-					-	-					-	-	
Municipality of Chatham-Kent											-	-					-	-					-	-	
Municipality of Clarington											-	-					-	-					-	-	
Municipality of Dutton-Dunwich											-	-					-	-					-	-	
Municipality of Dysart et al			15			1		$550,000			-	$550,000.00		$2,200,000.00			-	$2,200,000.00		$3,700,000.00			-	$3,700,000.00	
Municipality of French River											-	-					-	-					-	-	
Municipality of Greenstone											-	-					-	-					-	-	
Municipality of Grey Highlands											-	-					-	-					-	-	
Municipality of Hastings Highlands			14			19		$417,500			-	$417,500.00		$850,000.00			-	$850,000.00		u			-	-	
Municipality of Highlands East			8			6	3	$738,200	2	$620,000.00	5	$1,358,200.00	5	$162,000.00			5	$162,000.00	3	$55,000.00	5	$65,400.00	8	$120,400.00	-
Municipality of Huron Shores											-	-					-	-					-	-	
Municipality of Killarney											-	-					-	-					-	-	
Municipality of Kincardine											-	-					-	-					-	-	
Municipality of Lambton Shores											-	-					-	-					-	-	
Municipality of Leamington											-	-					-	-					-	-	
Municipality of Machin											-	-					-	-					-	-	
Municipality of Magnetawan	0	14	14	0	8	8	2	$2,500,000	1	$250,000.00	3	$2,750,000.00			2	$600,000.00	2	$600,000.00					-	-	The dollar values attached for replacement is an estimate. Our structures are appraised and inspected every 2 years by an engineering firm. Las

Municipality	Number of Structures						Now Needs						1 - 5 Year Needs						6-10 Year Needs						Relevant Comments
	Bridges			Major Culverts			Bridges		Major Culverts		Total		Bridges		Major Culverts		Total		Bridges		Major Culverts		Total		
	Urban	Rural	Total	Urban	Rural	Total	Needs	Estimate($)	Needs	Estimate($)	Needs	Estimate($)	Needs	Estimate($)	Needs	Estimate($)	Needs	Estimate($)	Needs	Estimate($)	Needs	Estimate($)	Needs	Estimate($)	
Municipality of Markstay-Warren											-	-					-	-					-	-	
Municipality of Marmora & Lake			23			5		$995,500			-	$995,500.00		$2,953,200.00			-	$2,953,200.00		$228,000.00			-	$228,000.00	
Municipality of Morris-Turnberry											-	-					-	-					-	-	
Municipality of North Grenville											-	-					-	-					-	-	
Municipality of North Middlesex											-	-					-	-					-	-	
Municipality of North Perth											-	-					-	-					-	-	
Municipality of Northern Bruce Peninsula											-	-					-	-					-	-	
Municipality of Port Hope			u			u		u			-	-		u			-	-		u			-	-	
Municipality of Powassan											-	-					-	-					-	-	
Municipality of Red Lake											-	-					-	-					-	-	
Municipality of Shuniah											-	-					-	-					-	-	
Municipality of Sioux Lookout											-	-					-	-					-	-	
Municipality of South Bruce											-	-					-	-					-	-	
Municipality of South Huron	1	25	26	0	45	45	1	$200,000	1	$80,000.00	2	$280,000.00	2	$300,000.00	3	$225,000.00	5	$525,000.00	2	$350,000.00	3	$250,000.00	5	$600,000.00	Our latest report shows most bridges and culverts are in a good state of repair, however we are currently completing a more detailed inspection.
Municipality of Southwest Middlesex											-	-					-	-					-	-	
Municipality of St. Charles											-	-					-	-					-	-	
Municipality of Temagami											-	-					-	-					-	-	
Municipality of Thames Centre											-	-					-	-					-	-	
Municipality of Trent Hills			34			5		$1,900,000			-	$1,900,000.00		$2,300,000.00			-	$2,300,000.00		$4,600,000.00			-	$4,600,000.00	Numbers only doucment the cost to repair or replace existing infrastructure. We would add at least $20,000,000 if we were to consider new infrast
Municipality of Tweed			57			4		$700,000			-	$700,000.00		$500,000.00			-	$500,000.00		u			-	-	
Municipality of West Elgin											-	-					-	-					-	-	
Municipality of West Grey											-	-					-	-					-	-	
Municipality of West Nipissing											-	-					-	-					-	-	
Municipality of West Perth	6	48	54	0	74	74	3		8		11	-	6		7		13	-	7		12		19	-	Currently hiring an engineer to perform Bridge Repalcement Costs for Asset Management. Now needs numbers include 1 future bridge closure a
Municipality of Whitestone											-	-					-	-					-	-	
County of Norfolk			146			91					-	-					-	-					-	-	
North Algona Wilberforce Township			0			0		$0			-	-		$0.00			-	-		$0.00			-	-	
Regional Municipality of Durham											-	-					-	-					-	-	
Regional Municipality of Halton			75.5			113.5		$12,838,000		$867,000.00	-	$13,705,000.00		$1,603,000.00		$1,009,000.00	-	$2,612,000.00		$43,000.00		$41,000.00	-	$84,000.00	
Regional Municipality of Niagara			127			56	40	$15,883,867	12	$535,700.00	52	$16,419,567.00	33	$9,938,090.00	5	$840,400.00	38	$10,778,490.00	10	$4,280,928.00	2	$681,000.00	12	$4,961,928.00	-
Regional Municipality of Peel			109			35	8	$4,455,900	1	$75,000.00	9	$4,530,900.00	18	$3,946,800.00	1	$72,200.00	19	$4,019,000.00	19	$2,578,126.00	3	$214,041.00	22	$2,792,167.00	Network condition is at 92. Proactive bridege management program
Regional Municipality of Waterloo	51	51	102	29	40	69	26	$119,000	19	$210,000.00	45	$329,000.00	186	$15,278,000.00	64	$490,000.00	250	$15,768,000.00	35	$1,072,000.00	10	$ 105,000.00	45	$1,177,000.00	
Regional Municipality of York			144			111	50	$35,340,000	9	$794,620.00	59	$36,134,620.00	37	$11,819,254.00	24	$5,405,500.00	61	$17,224,754.00	23	$6,628,745.00	12	$1,550,569.00	35	$8,179,314.00	-
Separated Town of Gananoque											-	-					-	-					-	-	
Separated Town of Prescott											-	-					-	-					-	-	
Separated Town of Smiths Falls											-	-					-	-					-	-	
Separated Town of St. Marys											-	-					-	-					-	-	
The Nation Municipality			36			7		$350,000			-	$350,000.00		$150,000.00			-	$150,000.00		$200,000.00			-	$200,000.00	
Town of Ajax											-	-					-	-					-	-	
Town of Amherstburg											-	-					-	-					-	-	
Town of Arnprior			1			1		$0			-	-		$0.00			-	-		$0.00			-	-	No readily available info for capital needs, but a storm diversion plan has been planned and the road costs were included. These costs have been
Town of Aurora											-	-					-	-					-	-	
Town of Aylmer											-	-					-	-					-	-	
Town of Bancroft			7			1		$160,000			-	$160,000.00		$960,000.00			-	$960,000.00		$600,000.00			-	$600,000.00	
Town of Blind River											-	-					-	-					-	-	
Town of Bracebridge											-	-					-	-					-	-	
Town of Bradford West Gwillimbury											-	-					-	-					-	-	
Town of Bruce Mines											-	-					-	-					-	-	
Town of Caledon											-	-					-	-					-	-	
Town of Carleton Place			u			u		u			-	-		u			-	-		u			-	-	No Data Shown on Chart
Town of Cobalt											-	-					-	-					-	-	
Town of Cobourg			u			u		u			-	-		u			-	-		u			-	-	
Town of Cochrane											-	-					-	-					-	-	
Town of Collingwood											-	-					-	-					-	-	
Town of Deep River			u			u		u			-	-		u			-	-		u			-	-	
Town of Deseronto			0			0		u			-	-		u			-	-		u			-	-	Our roads are coming to a critical stage. With increased policing and provincial downloads, the future is looking "sketchy" for Road upgrades.
Town of East Gwillimbury	1	15	16	5	5	10	3	$1,308,000			3	$1,308,000.00	6	$257,000.00	2	$10,000.00	8	$267,000.00					-	-	Town reinspects structures every 2 years in accordance with legislated requirements. Data is based on 2007 inspection.
Town of Englehart											-	-					-	-					-	-	
Town of Erin											-	-					-	-					-	-	
Town of Espanola											-	-					-	-					-	-	
Town of Essex											-	-					-	-					-	-	
Town of Fort Erie											-	-					-	-					-	-	
Town of Fort Frances											-	-					-	-					-	-	
Town of Georgina											-	-					-	-					-	-	
Town of Goderich	0	0	0	0	0	0	0	$0	0	$0.00	-	-	0	$0.00	0	$0.00	-	-	0	$0.00	0	$0.00	-	-	-
Town of Gore Bay											-	-					-	-					-	-	
Town of Gravenhurst											-	-					-	-					-	-	
Town of Greater Napanee			13			5		$3,605,000			-	$3,605,000.00		$243,000.00			-	$243,000.00		u			-	-	
Town of Grimsby	1	6	7	5	8	13					-	-	2	$2,000,000.00	3	$200,000.00	5	$2,200,000.00					-	-	
Town of Halton Hills											-	-					-	-					-	-	
Town of Hanover											-	-					-	-					-	-	
Town of Hawkesbury			2			1		$500,000			-	$500,000.00		$1,500,000.00			-	$1,500,000.00		$2,000,000.00			-	$2,000,000.00	
Town of Hearst											-	-					-	-					-	-	
Town of Huntsville											-	-					-	-					-	-	
Town of Ingersoll											-	-					-	-					-	-	
Town of Innisfil											-	-					-	-					-	-	
Town of Iroquois Falls											-	-					-	-					-	-	
Town of Kapuskasing											-	-					-	-					-	-	
Town of Kearney											-	-					-	-					-	-	
Town of Kingsville											-	-					-	-					-	-	
Town of Kirkland Lake											-	-					-	-					-	-	
Town of Lakeshore											-	-					-	-					-	-	
Town of LaSalle											-	-					-	-					-	-	
Town of Latchford											-	-					-	-					-	-	
Town of Laurentian Hills			0			0		$0			-	-		$0.00			-	-		$0.00			-	-	
Town of Lincoln											-	-					-	-					-	-	
Town of Marathon											-	-					-	-					-	-	
Town of Markham											-	-					-	-					-	-	
Town of Mattawa	2	0	2	0	0	0	2	$3,000,000			2	$3,000,000.00					-	-					-	-	Presently Undertaking a $3,000,000 rehab project on the two bridges crossing the Mattawa River
Town of Midland											-	-					-	-					-	-	
Town of Milton											-	-					-	-					-	-	
Town of Minto											-	-					-	-					-	-	
Town of Mississippi Mills			15			37		u			-	-		u			-	-		u			-	-	Town is conducting an inspection of the municipal bridges and culverts that are greater than 2m in diameter and will have a more accurate estima
Town of Mono											-	-					-	-					-	-	
Town of Moosonee											-	-					-	-					-	-	
Town of New Tecumseth			55			16		$15,754,000		$199,000.00	-	$15,953,000.00		$832,000.00		$341,000.00	-	$1,173,000.00				$ 17,000.00	-	$17,000.00	See Attached.

Municipality	Number of Structures						Now Needs						1 - 5 Year Needs						6-10 Year Needs						Relevant Comments
	Bridges			Major Culverts			Bridges		Major Culverts		Total		Bridges		Major Culverts		Total		Bridges		Major Culverts		Total		
	Urban	Rural	Total	Urban	Rural	Total	Needs	Estimate($)	Needs	Estimate($)	Needs	Estimate($)	Needs	Estimate($)	Needs	Estimate($)	Needs	Estimate($)	Needs	Estimate($)	Needs	Estimate($)	Needs	Estimate($)	
Town of Newmarket	30		30	38		38	10	$375,000	1	$53,000.00	11	$428,000.00	7	$150,000.00	7	$550,000.00	14	$700,000.00	1	$5,000.00	1	$ 13,000.00	2	$18,000.00	No of structures: Urban: Bridges (15 Bridges & 15 Footbridges)
Town of Niagara-on-the-Lake											-	-					-	-					-	-	
Town of Northeastern Manitoulin and the Islands											-	-					-	-					-	-	
Town of Oakville			43								-	-					-	-					-	-	Bi-Annual Inspection. As culverts were not undertaken in 2004, they will need to be inspected along with bridges in 2006.
Town of Orangeville											-	-					-	-					-	-	
Town of Parry Sound	5	0	5	0	0	0	2	$362,500			2	$362,500.00	3	$759,420.00			3	$759,420.00	2	$506,280.00			2	$506,280.00	-
Town of Pelham											-	-					-	-					-	-	
Town of Penetanguishene											-	-					-	-					-	-	
Town of Perth			u			u		u			-	-		u			-	-		u			-	-	
Town of Petawawa			0			0		$0			-	-		$0.00			-	-		$0.00			-	-	
Town of Petrolia											-	-					-	-					-	-	
Town of Plympton-Wyoming											-	-					-	-					-	-	
Town of Rainy River											-	-					-	-					-	-	"the Town of Rainy River has no structures which would fall under the categories that you have listed in your letter"
Town of Renfrew	1	0	1	0	0	0	0	$0	0	$0.00	-	-	0	$0.00	0	$0.00	-	-	0	$0.00	0	$0.00	-	-	Bi-Annual Inspections and Bridge Reconstructed in 04/05
Town of Richmond Hill											-	-					-	-					-	-	
Town of Saugeen Shores											-	-					-	-					-	-	
Town of Shelburne											-	-					-	-					-	-	
Town of Smooth Rock Falls											-	-					-	-					-	-	
Town of South Bruce Peninsula											-	-					-	-					-	-	
Town of Spanish											-	-					-	-					-	-	
Town of Tecumseh											-	-					-	-					-	-	
Town of The Blue Mountains											-	-					-	-					-	-	
Town of Thessalon											-	-					-	-					-	-	
Town of Tillsonburg											-	-					-	-					-	-	
Town of Wasaga Beach											-	-					-	-					-	-	
Town of Whitchurch-Stouffville											-	-					-	-					-	-	
Town of Whitchurch-Stouffville											-	-					-	-					-	-	
Township of Addington Highlands			15			2		$1,247,000			-	$1,247,000.00		u			-	-		u			-	-	Culvert Needs: Now - $101,000, 1-5yr - $40,000; Capital Needs does not include equipment and replacement.
Township of Adelaide Metcalfe											-	-					-	-					-	-	
Township of Adjala-Tosorontio											-	-					-	-					-	-	
Township of Admaston/Bromley			2			0		$0			-	-		$0.00			-	-		$0.00			-	-	
Township of Alberton											-	-					-	-					-	-	
Township of Alfred & Plantagenet			5			8		u			-	-		u			-	-		u			-	-	
Township of Algonquin Highlands			4			1		$410,000			-	$410,000.00		u			-	-		u			-	-	Update Bridges Needs Study is scheduled for 2008.
Township of Alnwick/Haldimand			19			23		$632,500			-	$632,500.00		u			-	-		u			-	-	The Township is in the process of doing a Roads & Bridges Needs Study.
Township of Amaranth											-	-					-	-					-	-	
Township of Armour			2			1		N/A			-	-	N/A		N/A		-	-	N/A		N/A		-	-	
Township of Armstrong											-	-					-	-					-	-	
Township of Ashfield-Colborne-Wawanosh											-	-					-	-					-	-	
Township of Asphodel-Norwood			0			0		u			-	-		u			-	-		u			-	-	
Township of Assiginack											-	-					-	-					-	-	
Township of Athens		2	2		1	1					-	-					-	-					-	-	Beeles Mills Bridge replaces in 1994. Ebe Creek Bridge replace in 2005. Temperance Lake Road Culvert Replaced in 2007.
Township of Atikokan											-	-					-	-					-	-	
Township of Augusta			7			15		u			-	-		$180,000.00			-	$180,000.00		$135,000.00			-	$135,000.00	
Township of Baldwin											-	-					-	-					-	-	
Township of Barrie Island											-	-					-	-					-	-	
Township of Beckwith			u			u		u			-	-		u			-	-		u			-	-	No Data
Township of Billings											-	-					-	-					-	-	
Township of Black River-Matheson											-	-					-	-					-	-	
Township of Blandford-Blenheim											-	-					-	-					-	-	
Township of Bonfield											-	-					-	-					-	-	Township has information on structures, but council would be more comfortable in rleasing this information following their tangible capital asset pr
Township of Bonnechere Valley			1			0		$0			-	-		$0.00			-	-		$0.00			-	-	Presently conducting a Needs Study for the Township roads.
Township of Brethour											-	-					-	-					-	-	
Township of Brock											-	-					-	-					-	-	
Township of Brooke-Alvinston											-	-					-	-					-	-	
Township of Brudenell, Lyndoch & Raglan			0			0		$0			-	-		$0.00			-	-		$0.00			-	-	
Township of Burpee & Mills											-	-					-	-					-	-	
Township of Carling											-	-					-	-					-	-	
Township of Carlow/Mayo			4			0		$518,650			-	$518,650.00		$79,800.00			-	$79,800.00		u			-	-	
Township of Casey											-	-					-	-					-	-	
Township of Cavan-Millbrook-North Monaghan			0			10		u			-	-		u			-	-		u			-	-	
Township of Central Frontenac			19			13		$115,000			-	$115,000.00		$750,000.00			-	$750,000.00		$750,000.00			-	$750,000.00	
Township of Central Manitoulin											-	-					-	-					-	-	
Township of Centre Wellington											-	-					-	-					-	-	
Township of Chamberlain											-	-					-	-					-	-	
Township of Champlain			6			0		$300,000			-	$300,000.00		u			-	-		u			-	-	
Township of Chapleau											-	-					-	-					-	-	
Township of Chapple											-	-					-	-					-	-	
Township of Chatsworth											-	-					-	-					-	-	
Township of Chatsworth											-	-					-	-					-	-	
Township of Chisholm											-	-					-	-					-	-	
Township of Clearview								$74,000			-	$74,000.00		$890,500.00			-	$890,500.00					-	-	
Township of Cockburn Island											-	-					-	-					-	-	
Township of Coleman											-	-					-	-					-	-	
Township of Conmee											-	-					-	-					-	-	
Township of Cramahe			2			25		$419,001			-	$419,001.00		u			-	-		u			-	-	The Township of Cramahe will be replacing a Bridge in 2007 for the total estimated cost of $419,001. Funding will be provided by $279,334 in CO
Township of Dawn-Euphemia											-	-					-	-					-	-	
Township of Dawson											-	-					-	-					-	-	
Township of Dorion											-	-					-	-					-	-	
Township of Douro-Dummer			0			0		u			-	-		u			-	-		u			-	-	
Township of Drummond/North Elmsley			12			5		$200,000			-	$200,000.00		$1,500,000.00			-	$1,500,000.00		$2,000,000.00			-	$2,000,000.00	
Township of Dubreuilville											-	-					-	-					-	-	
Township of Ear Falls											-	-					-	-					-	-	
Township of East Ferris											-	-					-	-					-	-	
Township of East Garafraxa											-	-					-	-					-	-	
Township of East Hawkesbury			10			1		u			-	-		u			-	-		u			-	-	
Township of East Luther Grand Valley											-	-					-	-					-	-	
Township of East Zorra-Tavistock											-	-					-	-					-	-	
Township of Edwardsburgh/Cardinal			3			8		$267,000			-	$267,000.00		$400,000.00			-	$400,000.00		$300,000.00			-	$300,000.00	
Township of Elizabethtown-Kitley			4			3		$450,000			-	$450,000.00		$500,000.00			-	$500,000.00		$700,000.00			-	$700,000.00	
Township of Emo											-	-					-	-					-	-	
Township of Enniskillen											-	-					-	-					-	-	
Township of Essa											-	-					-	-					-	-	
Township of Evanturel											-	-					-	-					-	-	
Township of Faraday			0			7		$200,000			-	$200,000.00		$250,000.00			-	$250,000.00		$250,000.00			-	$250,000.00	
Township of Fauquier-Strickland											-	-					-	-					-	-	

Municipality	Number of Structures						Now Needs						1 - 5 Year Needs						6-10 Year Needs						Relevant Comments
	Bridges			Major Culverts			Bridges		Major Culverts		Total		Bridges		Major Culverts		Total		Bridges		Major Culverts		Total		
	Urban	Rural	Total	Urban	Rural	Total	Needs	Estimate($)	Needs	Estimate($)	Needs	Estimate($)	Needs	Estimate($)	Needs	Estimate($)	Needs	Estimate($)	Needs	Estimate($)	Needs	Estimate($)	Needs	Estimate($)	
Township of Front of Yonge			2			1		u			-	-		u			-	-		u			-	-	
Township of Frontenac Islands			1			2		u			-	-		u			-	-		u			-	-	
Township of Galway-Cavendish-Harvey			10			0		$200,000			-	$200,000.00		u			-	-		u			-	-	Municipality is anticipating conducting an up to date needs study in the near future.
Township of Gauthier											-	-					-	-					-	-	
Township of Georgian Bay											-	-					-	-					-	-	
Township of Georgian Bluffs											-	-					-	-					-	-	
Township of Gillies											-	-					-	-					-	-	
Township of Gordon											-	-					-	-					-	-	
Township of Guelph/Eramosa											-	-					-	-					-	-	
Township of Greater Madawaska			0			0		$0			-	-		$0.00			-	-		$0.00			-	-	
Township of Hamilton			22			5		$2,865,000			-	$2,865,000.00		$165,000.00			-	$165,000.00		u			-	-	Gas tax revenue source represents both 2005 and 2006 allocation. Road Needs costs are taken from the 2002 study and are unadjusted for inflat
Township of Harley											-	-					-	-					-	-	
Township of Harris											-	-					-	-					-	-	
Township of Havelock-Belmont-Methuen			0			4		u			-	-		$600,000.00			-	$600,000.00		$600,000.00			-	$600,000.00	Have $144,000 for capital at this point. 1% increase in taxes generates $33,000. Haven't got a hope of meeting needs.
Township of Head, Clara & Maria			0			0		$0			-	-		$0.00			-	-		$0.00			-	-	Road needs include roads and cluverts as we are not responsible for the bridges. County is responsible for the larger culverts and bridges.
Township of Hilliard											-	-					-	-					-	-	
Township of Hilton											-	-					-	-					-	-	
Township of Hornepayne			1			1	0	$0	0	$0.00	-	-	0	$0.00	0	$0.00	-	-	0	$0.00	0	$0.00	-	-	
Township of Horton			0			0		$0			-	-		$0.00			-	-		$0.00			-	-	It has been estimated that Horton requires $1,000,000 each year for the next 10 years to bring our road infrastructure up to standard.
Township of Howick											-	-					-	-					-	-	
Township of Hudson											-	-					-	-					-	-	
Township of Huron-Kinloss	7	37	44	1	45	46					-	-	2	$800,000.00			2	$800,000.00					-	-	Cannot replace without funding; Rural community has small tax base. Low traffic count in our area makes two year bridge inspection seem like an
Township of Ignace											-	-					-	-					-	-	
Township of James											-	-					-	-					-	-	
Township of Jocelyn											-	-					-	-					-	-	
Township of Johnson											-	-					-	-					-	-	
Township of Joly											-	-					-	-					-	-	
Township of Kerns											-	-					-	-					-	-	
Township of Killaloe, Hagarty and Richards			0			0		$0			-	-		$0.00			-	-		$0.00			-	-	
Township of King											-	-					-	-					-	-	
Township of La Vallee											-	-					-	-					-	-	
Township of Laird											-	-					-	-					-	-	
Township of Laird											-	-					-	-					-	-	
Township of Lake of Bays											-	-					-	-					-	-	
Township of Lake of the Woods											-	-					-	-					-	-	
Township of Lanark Highlands			12			2		$119,200			-	$119,200.00		$200,000.00			-	$200,000.00		$500,000.00			-	$500,000.00	
Township of Larder Lake											-	-					-	-					-	-	
Township of Laurentian Valley			0			0		$0			-	-		$0.00			-	-		$0.00			-	-	
Township of Leeds and the Thousand Islands			6			4		$1,465,000			-	$1,465,000.00		u			-	-		u			-	-	The information provided for the 10 year capital budget is from a roads needs study we did this year. Based on the report our needs are much big
Township of Limerick			3			0		$500,000			-	$500,000.00		$500,000.00			-	$500,000.00		$500,000.00			-	$500,000.00	Currently looking at having a roads needs assessment completed for the township. These numbers are estimates.
Township of Lucan Biddulph											-	-					-	-					-	-	
Township of Lucan Biddulph											-	-					-	-					-	-	
Township of Machar											-	-					-	-					-	-	
Township of Madawaska Valley			0			0		$0			-	-		$0.00			-	-		$0.00			-	-	
Township of Madoc			4			4		$736,000			-	$736,000.00		$1,200,000.00			-	$1,200,000.00		u			-	-	Roads needs are for resurfacing of existing hardtop. Received RIII funding for one bridge estimated at $736,000. Larger bridge currently under re
Township of Malahide											-	-					-	-					-	-	
Township of Manitouwadge											-	-					-	-					-	-	
Township of Mapleton											-	-					-	-					-	-	
Township of Matachewan											-	-					-	-					-	-	
Township of Mattawan	2		2	1		1				$3,000.00	-	$3,000.00		$50,000.00			-	$50,000.00	16				16	-	All culverts were reviewed in the past 5 years
Township of Mattice-Val Cote											-	-					-	-					-	-	
Township of McDougall											-	-					-	-					-	-	
Township of McGarry											-	-					-	-					-	-	
Township of McGarry											-	-					-	-					-	-	
Township of McKellar											-	-					-	-					-	-	
Township of McMurrich/Monteith											-	-					-	-					-	-	
Township of McNab-Braeside			0			0		$0			-	-		$0.00			-	-		$0.00			-	-	"County of Renfrew's Responsibility" - Ignored/Negligible
Township of Melancthon											-	-					-	-					-	-	
Township of Michipicoten											-	-					-	-					-	-	
Township of Middlesex Centre											-	-					-	-					-	-	
Township of Minden Hills			12			1		$325,000			-	$325,000.00		u			-	-		u			-	-	
Township of Montague			1			4		u			-	-		u			-	-		u			-	-	
Township of Moonbeam											-	-					-	-					-	-	
Township of Morley											-	-					-	-					-	-	
Township of Mulmur											-	-					-	-					-	-	
Township of Muskoka Lakes											-	-					-	-					-	-	
Township of Nairn and Hyman											-	-					-	-					-	-	
Township of Neebing											-	-					-	-					-	-	
Township of Nipigon											-	-					-	-					-	-	
Township of Nipissing											-	-					-	-					-	-	
Township of North Dumfries											-	-					-	-					-	-	
Township of North Dundas			18			12		$400,000			-	$400,000.00		$530,000.00			-	$530,000.00		$713,000.00			-	$713,000.00	
Township of North Frontenac			13			8		$1,200,000			-	$1,200,000.00		$1,500,000.00			-	$1,500,000.00		$1,250,000.00			-	$1,250,000.00	Province downloaded highways - Road 506 and 509 Reserve Funds have only kept going as the Council of the Township of North Frontenac have
Township of North Glengarry			50			7		$1,000,000			-	$1,000,000.00		$2,500,000.00			-	$2,500,000.00		$3,000,000.00			-	$3,000,000.00	
Township of North Huron	0	2	2	0	1	1	1	$8,000			1	$8,000.00					-	-					-	-	Our bridges are in very good condition. Now needs include one bridge with railing repairs. All bridges are inspected every 2 years
Township of North Kawartha			0			0		u			-	-		u			-	-		u			-	-	All of the bridges and large culverts in our Municipality are the property of Peterborough County.
Township of North Stormont			28			7		$500,000			-	$500,000.00		$1,250,000.00			-	$1,250,000.00		$1,750,000.00			-	$1,750,000.00	
Township of Norwich											-	-					-	-					-	-	Information Unobtainable
Township of O'Connor											-	-					-	-					-	-	
Township of Oliver & Paipoonge											-	-					-	-					-	-	
Township of Opasatika											-	-					-	-					-	-	
Township of Oro-Medonte											-	-					-	-					-	-	
Township of Otonabee-South Monaghan			31			11		$285,000			-	$285,000.00		$118,000.00			-	$118,000.00		$61,000.00			-	$61,000.00	Roads Needs - estimated from 2004 Roads Needs Study□Bridge Needs - estimates from 2006 Structures Report
Township of Papineau-Cameron											-	-					-	-					-	-	
Township of Pelee											-	-					-	-					-	-	
Township of Perry											-	-					-	-					-	-	
Township of Perth East	2	34	36	8	47	55	1	$450,000			1	$450,000.00	4	$2,600,000.00	6	$1,200,000.00	10	$3,800,000.00	3	$1,700,000.00	5	$620,000.00	8	$2,320,000.00	None
Township of Perth South											-	-					-	-					-	-	
Township of Pickle Lake											-	-					-	-					-	-	
Township of Plummer Additional											-	-					-	-					-	-	
Township of Prince											-	-					-	-					-	-	
Township of Puslinch											-	-					-	-					-	-	
Township of Ramara			21			5		$258,000		$58,000.00	-	$316,000.00		$124,200.00		$148,000.00	-	$272,200.00					-	-	
Township of Red Rock											-	-					-	-					-	-	
Township of Rideau Lakes			21			0		u			-	-		$610,000.00			-	$610,000.00		$60,000.00			-	$60,000.00	
Township of Russell			13			5		$10,000			-	$10,000.00		$500,000.00			-	$500,000.00		$700,000.00			-	$700,000.00	

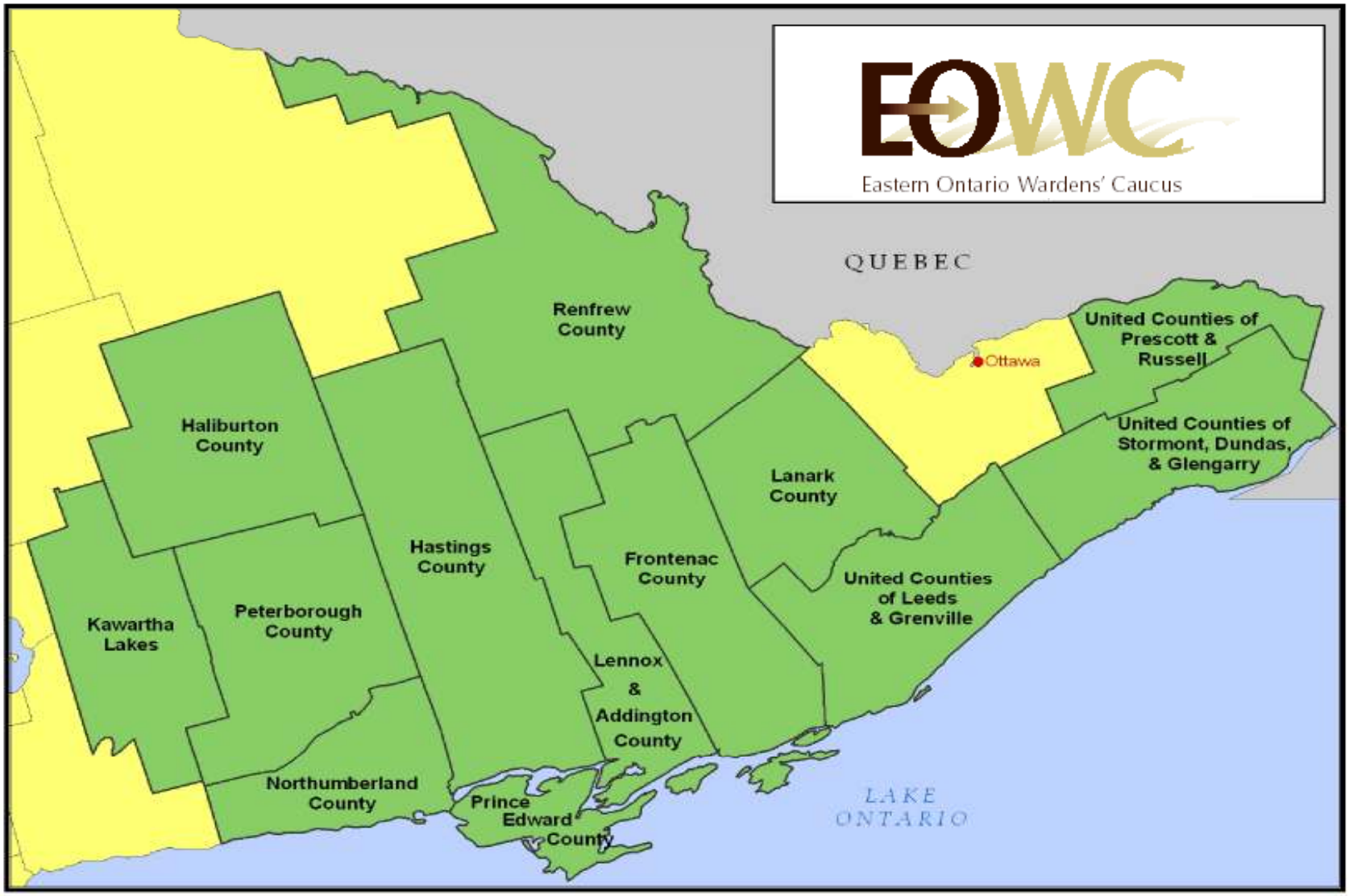
Municipality	Number of Structures						Now Needs						1 - 5 Year Needs						6-10 Year Needs						Relevant Comments
	Bridges			Major Culverts			Bridges		Major Culverts		Total		Bridges		Major Culverts		Total		Bridges		Major Culverts		Total		
	Urban	Rural	Total	Urban	Rural	Total	Needs	Estimate($)	Needs	Estimate($)	Needs	Estimate($)	Needs	Estimate($)	Needs	Estimate($)	Needs	Estimate($)	Needs	Estimate($)	Needs	Estimate($)	Needs	Estimate($)	
Township of Ryerson											-	-					-	-					-	-	
Township of Sables-Spanish Rivers											-	-					-	-					-	-	
Township of Schreiber											-	-					-	-					-	-	
Township of Scugog			16			8	2	$1,070,000	2	$1,225,000.00	4	$2,295,000.00	9	$2,319,000.00	5	$330,000.00	14	$2,649,000.00					-	-	
Township of Seguin											-	-					-	-					-	-	
Township of Severn											-	-					-	-					-	-	
Township of Sioux Narrows Nestor Falls											-	-					-	-					-	-	
Township of Smith-Ennismore-Lakefield			0			2		u			-	-		u			-	-		u			-	-	
Township of South Algonquin											-	-					-	-					-	-	
Township of South Dundas			15			15		$260,000			-	$260,000.00		$555,000.00			-	$555,000.00		$400,000.00			-	$400,000.00	
Township of South Frontenac			18			30		$2,000,000			-	$2,000,000.00		$500,000.00			-	$500,000.00		$500,000.00			-	$500,000.00	
Township of South Glengarry			28			33		$2,174,000			-	$2,174,000.00		$957,000.00			-	$957,000.00		$65,000.00			-	$65,000.00	
Township of South Stormont			9			20		$453,100			-	$453,100.00		$743,600.00			-	$743,600.00		$758,472.00			-	$758,472.00	
Township of Southgate											-	-					-	-					-	-	
Township of South-West Oxford											-	-					-	-					-	-	
Township of Southwold											-	-					-	-					-	-	
Township of Springwater											-	-					-	-					-	-	
Township of St. Clair											-	-					-	-					-	-	
Township of St. Joseph											-	-					-	-					-	-	
Township of Stirling-Rawdon			19			3		$1,000,000			-	$1,000,000.00		$3,000,000.00			-	$3,000,000.00		u			-	-	Figures are approximate values. Estimated as of May 2007; however, aging infrastructure could deteriorate at a higher rate than projected requiri
Township of Stone Mills			20			5		$2,002,000			-	$2,002,000.00		$45,000.00			-	$45,000.00		u			-	-	Currently working with a 2001 roads needs study that was produced by Totten, Simms and Hubicki. There are funds in the 2007 budget to update
Township of Strathroy-Caradoc											-	-					-	-					-	-	
Township of Strong											-	-					-	-					-	-	
Township of Strong											-	-					-	-					-	-	
Township of Tay											-	-					-	-					-	-	
Township of Tay Valley			23			1		$160,000			-	$160,000.00		$850,000.00			-	$850,000.00		$940,000.00			-	$940,000.00	
Township of Tehkummah											-	-					-	-					-	-	
Township of Terrace Bay											-	-					-	-					-	-	
Township of The Archipelago											-	-					-	-					-	-	
Township of The North Shore											-	-					-	-					-	-	
Township of Tiny											-	-					-	-					-	-	No resources available to provide the information requested.
Township of Tudor & Cashel			4			4		$800,000			-	$800,000.00		u			-	-		u			-	-	
Township of Tyendinaga			28			0		$640,500			-	$640,500.00		$1,619,000.00			-	$1,619,000.00		$782,000.00			-	$782,000.00	
Township of Uxbridge											-	-					-	-					-	-	
Township of Val Rita-Harty		1	1		10	10					-	-	1	$250,000.00	8	$280,000.00	9	$530,000.00			2	$70,000.00	2	$70,000.00	-
Township of Warwick											-	-					-	-					-	-	
Township of Wellesley											-	-					-	-					-	-	
Township of Wellington North											-	-					-	-					-	-	
Township of West Lincoln											-	-					-	-					-	-	
Township of White River											-	-					-	-					-	-	
Township of Whitewater Region			0			0		$0			-	-		$0.00			-	-		$0.00			-	-	Infrastructure has rebuild needs far beyond our ability to fund on our own. Traffic load increasing at an alarming rate. Upper levels of Government
Township of Wilmot											-	-					-	-					-	-	
Township of Wollaston	0	6	6	0	0	1	3	$75,000			3	$75,000.00	3	$200,000.00			3	$200,000.00					-	-	With evaluations changing every year due to inspections and structural changes, it is hard for the Township to come up with the money for urgent
Township of Woolwich			30			12					-	-					-	-					-	-	In the process of inspection and evaluation based on the OSIM and PASB 3150 requirements. Previous inspection data is available in hardcopy f
United Counties of Leeds and Grenville			85			34		$1,500,000			-	$1,500,000.00		$10,000,000.00			-	$10,000,000.00		$10,000,000.00			-	$10,000,000.00	
United Counties of Prescott and Russell			43			43		$2,500,000			-	$2,500,000.00		$6,600,000.00			-	$6,600,000.00		$7,200,000.00			-	$7,200,000.00	At the end of 2007 the Reserve Fund for Equipment for Public work will be $0 no other reserve or reserve fund exist for the public work.
United Counties of Stormont, Dundas and Glengarry			76			110		$3,900,000			-	$3,900,000.00		$4,000,000.00			-	$4,000,000.00		$9,200,000.00			-	$9,200,000.00	Includes resurfacing/rehabilitation.
Village of Burk's Falls											-	-					-	-					-	-	
Village of Casselman			1	1		1		u			-	-		u			-	-		u			-	-	
Village of Hilton Beach											-	-					-	-					-	-	
Village of Merrickville-Wolford			7			1		$135,000			-	$135,000.00		$100,000.00			-	$100,000.00		$100,000.00			-	$100,000.00	
Village of Newbury											-	-					-	-					-	-	
Village of Oil Springs											-	-					-	-					-	-	
Village of South River											-	-					-	-					-	-	
Village of Sundridge											-	-					-	-					-	-	
Village of Thornloe											-	-					-	-					-	-	
Village of Westport			1			0		u			-	-		u			-	-		u			-	-	
Column Totals	737	754	4039	429	718	2814	380	$252,138,541	79	$9,490,320.00	477	$268,928,860.80	645	$336,108,423.12	196	$19,736,507.33	928	$364,044,930.45	317	$282,818,150.62	111	$9,067,490.81	474	$292,785,641.43	

APPENDIX C
EASTERN ONTARIO WARDEN'S CAUCUS STUDY EXCERPTS

EOWC

Eastern Ontario Wardens' Caucus

June 2007



11 Counties and 2 Single Tier Municipalities

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Eastern Ontario Wardens' Caucus

Findings

- Small population base (about 700,000 in the EOWC municipalities) (17 persons per square km)
- Moderate growth (3% change 2001 – 2006) (higher percentage of seniors)
- Income levels significantly below provincial average ($2,000 below Western Ontario)

EOWC
Eastern Ontario Wardens' Caucus

Findings

- Small property tax base ($1 million per square km. compared to $2.5 million per square km. in Western Ontario)
- More than 90% of total assessment is residential (97% in Haliburton and 98% in Frontenac)
- In 2004 and 2005 the assessment growth was less than 2% across all categories

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Findings

- Approximately 25% of the region is Crown Land (11,000 square kms)
- The shortfall for downloaded programs was approximately $25 million in 2006
- Transferred highways (40% or 1994 kms went to EOWC municipalities) are a financial burden ($25,000,000 in 1998 $'s)

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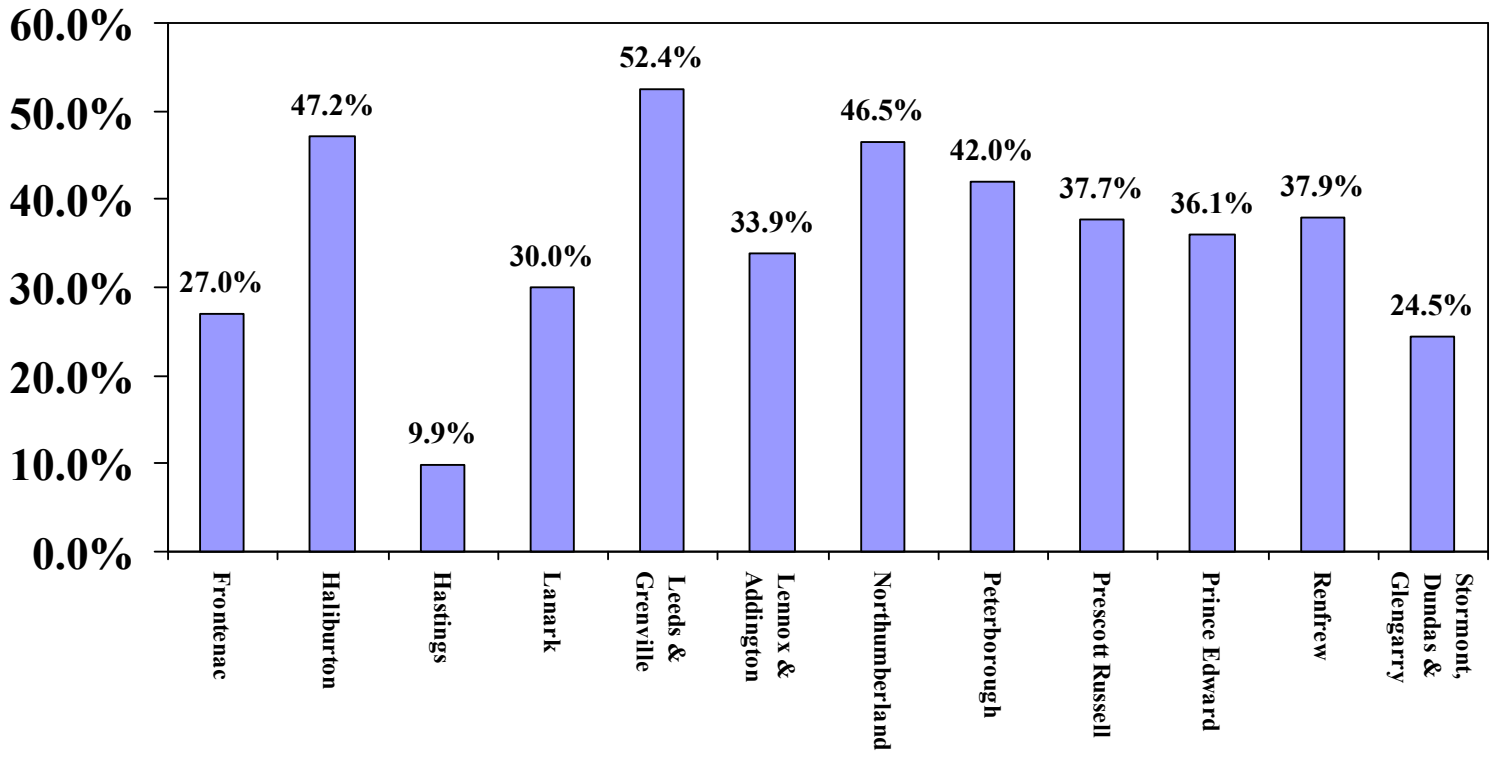
EOWC – "Future Directions" – 2006 Update

- Significant Property Tax increases In recent years
  - 2002 - $184.7 million raised by 13 counties
  - 2006 - $304.1 million raised by 13 counties
  - **35.4** % increase over five years

EOWC
Eastern Ontario Wardens' Caucus

Future Directions Update 2006
% Increase in County Levy since '02



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2007 Priority Issues

- Resolving the Fiscal Gap
- Sustainable funding for roads and bridges
- Introduction of an Eastern Ontario Development Fund
- Provision of broadband connectivity
- Commercial and Industrial Education tax rates
- Compensation to municipalities with significant Crown Lands

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Roads and Bridges Infrastructure Survey

- Quantify the municipal roads and bridges infrastructure of the region
- Determine the resources expended in 2006 to maintain and improve roads and bridges
- Estimate the capital needs of the system

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Findings

- 94 of 101 municipalities responded (93%)
- 83 municipalities provided some estimate of roads needs (82%)
- 63 of the 79 municipalities with responsibility for bridges provided some estimate of bridge needs (80%)

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Findings

Jurisdictional Issues

- Hastings and Frontenac – all roads and bridges are a responsibility of lower-tier municipalities
- Renfew and Peterborough – all bridges are the responsibility of the county
- Lennox and Addington – contract arrangement with local municipalities to maintain county roads

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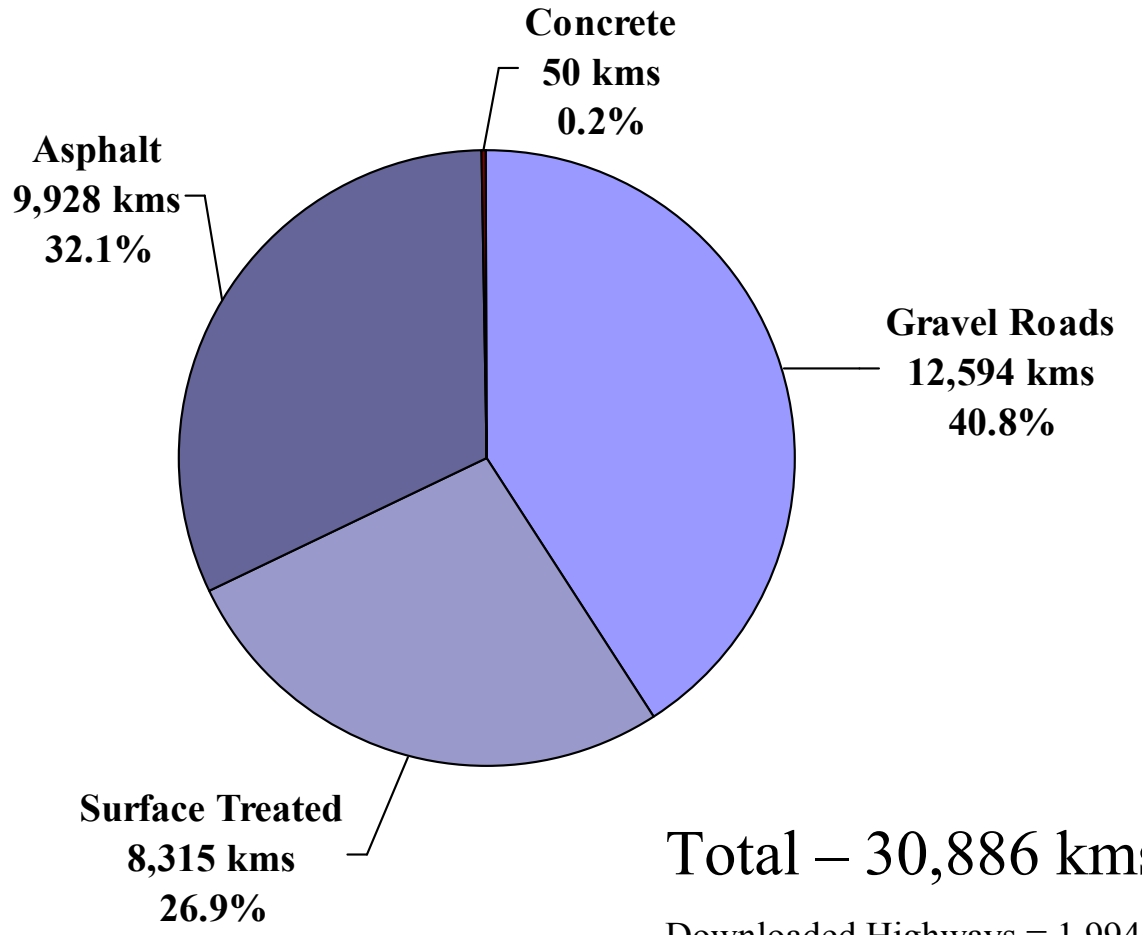
Roads and Bridges
Infrastructure Surface Categories



Total – 30,886 kms

Downloaded Highways = 1,994 kms (6.4%)

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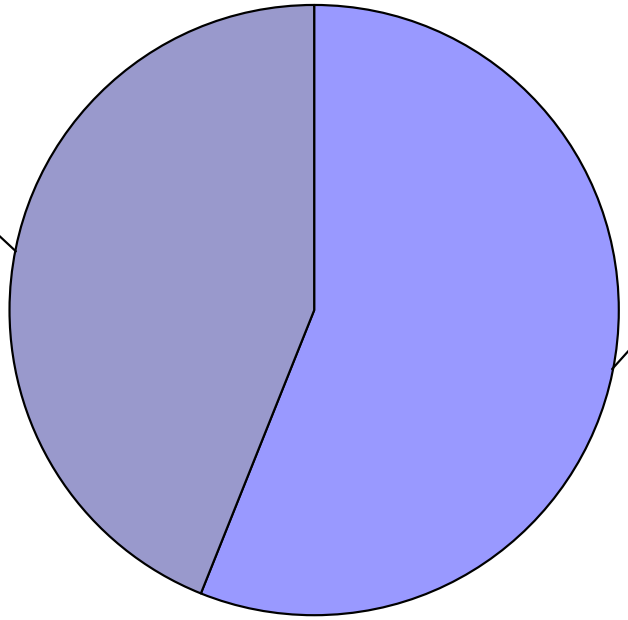
Expenditures



Construction
$139 million
44%

$227 per capita
$4,502 per kilometre

Maintenance, Operating and Administrative
$181 million
56%

$295 per capita
$5,858 per kilometre

Total $319 million

$522 per capita

$10,360 per kilometre

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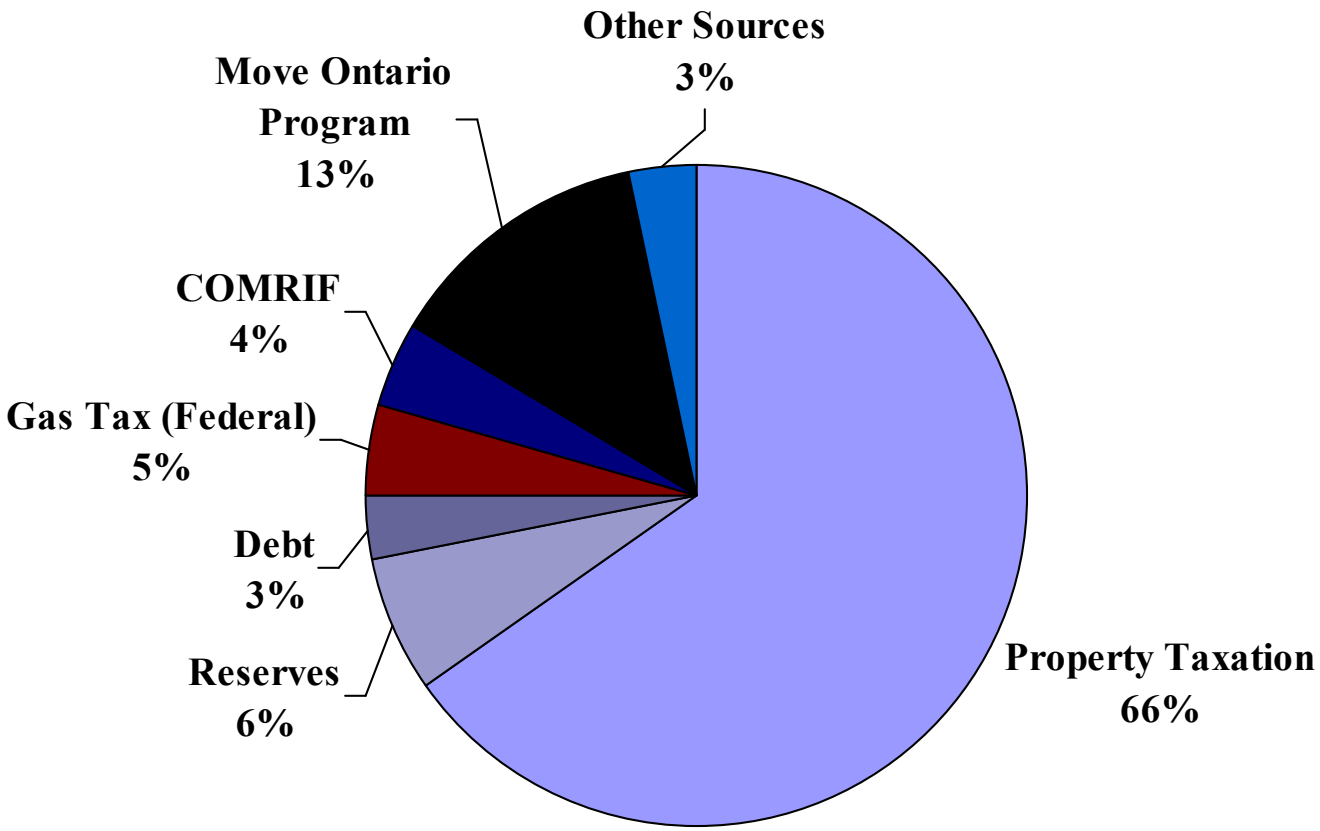
2006 Funding Sources



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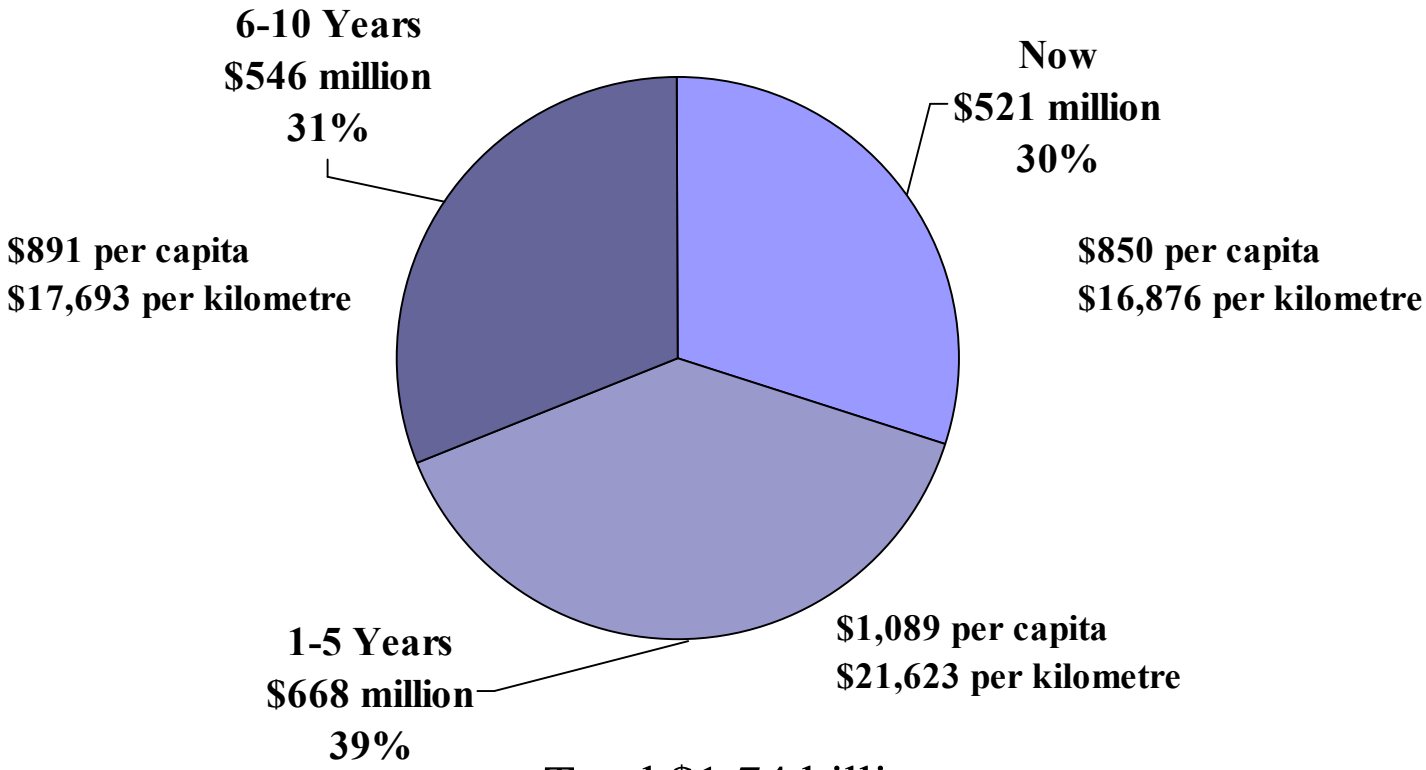
Estimated Roads Needs



Total $1.74 billion

$2,830 per capita

$56,192 per kilometre

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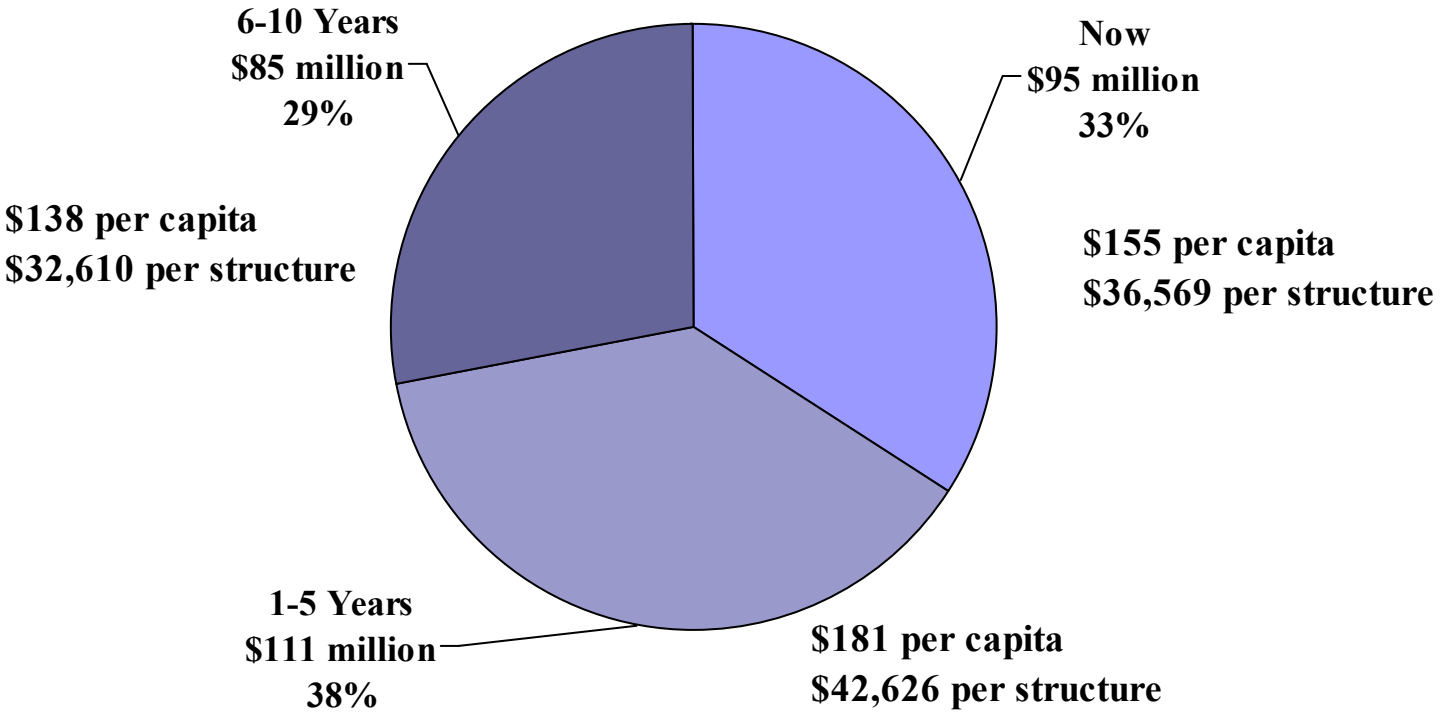
Estimated Bridge and Culvert Needs



Total $291 million

$474 per capita

$111,805 per structure

EOWC

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- Total Needs = $2.26 Billion
- Now Needs = $616 Million
- 2006 Construction Spending = $139 Million
- Deficit = $477 Million